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fueloil & oil heat

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--with BRODIE METERS

Typical of the trend in modern airport refueling equipment is this fleet of *nine new Phillips Petroleum truck tanks* equipped with Brodie Meters, placed in service along Mid-Continent Airlines flight route. Designed for fast, accurate refueling these airport service units embody maximum compactness for greatest efficiency in operation. Brodie Meters equipped with Brodimatic Counters installed on these truck tank refuelers dispense 80 GPM at only 800 RPM motor speed—maintaining a high dependable degree of accuracy, at all times. To insure high standards of metering performance, standardize on Brodie Meters. Write today for complete details.

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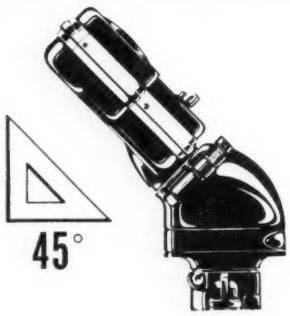

Provides *full range visibility* on loading racks, truck tanks, fueling pits and airport refueling operations. Write for full details.

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RALPH N. BRODIE CO., INC. 61ST & LOWELL, OAKLAND 8, CALIFORNIA, U.S.A.

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302 SOUTH PEARL ST., DALLAS 1, TEXAS • 221-9TH AVE. NORTH, SEATTLE 9, WASH. • *REPRESENTATIVES AND STOCKS IN ALL PRINCIPAL CITIES*

Names in the News

Nelson L. Hungerford, Joel W. Leeson and *Richard E. Heaven* have been appointed sales representatives for Thatcher Furnace Co., Garwood, N. J.

L. to r: Hungerford, Leeson, Heaven.

Mr. Leeson will cover southern New Jersey, Mr. Hungerford the state of Michigan and Mr. Heaven North and South Carolina. Their appointments are another of the steps Thatcher is taking in an extensive sales expansion program begun four years ago.

James H. Lahey has been named midwest representative, Industrial Div., Webster Electric Co., Racine, Wis. Headquartered in Racine he will cover all the midwest except Wisconsin, contacting manufacturers, distributors and dealers on the sale of fuel units, transformers and Thermodrive variable speed controls.

Oliver Dobson is the new sales manager, Automatic Devices Co., Inc., Chicago, Ill., manufacturer of the "Weather Man" temperature controller. Formerly connected with the U. S. Gypsum Co., Economy Electric Mfg. Co. and Sampsel Time Control, Inc., Mr. Dobson enjoys a broad

fueloil & oil heat

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Acceptance under Sec. 34.64, P. L. & R., authorized.

VOLUME 9, NUMBER 6 OF FUELOIL & OIL HEAT. PUBLISHED MONTHLY BY HEATING PUBLISHERS, INC., BALTIMORE, MD., AND 232 MADISON AVE., NEW YORK 16, N. Y., SUCCESSOR TO FUELOIL JOURNAL (1922) AND AIR CONDITIONING & OIL HEAT (1928), JUNE, 1950.

HEATING PUBLISHERS, INC., 232 Madison Ave., New York 16
Phone: LExington 2-4566 & 4567

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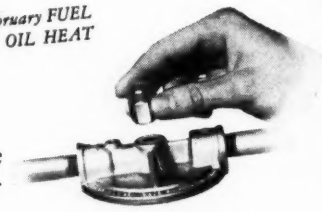
single copy: 35¢

Curing Feed Line Troubles

Answers to the Readers of "Curing Feed Line Troubles"

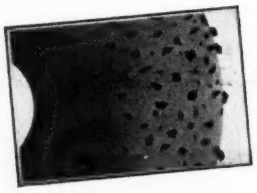
Could the writer of that article have meant Cuno* . . . when he advised using a filter that can be cleaned "in a neat way inside of 15 minutes"?

* *in February* FUEL OIL & OIL HEAT



The Cuno MICRO-KLEAN cartridge can be replaced in ONE minute—just one nut to loosen.

. . . when he recommended selling customers on a filter that "will keep the burner in better condition"?



The Cuno MICRO-KLEAN cartridge —resin-impregnated—will not distort or channel . . . holds twice as much dirt . . . guarantees protection of pumps and burner nozzles . . . cuts unbillable service costs.

. . . when he suggested standardizing on one make of filter?

One model of Cuno MICRO-KLEAN fits any domestic fuel installation (straight pipe line connections, 56 GPH UL rating). Can be installed on suction side of pump. One standard cartridge size cuts down inventory.

For a complete "feed line trouble cure" . . . reduced service expenses, a nice profit on each filter and cartridge sale, and completely satisfied customers, standardize on Cuno MICRO-KLEAN Oil Burner Filter Model 1C1.

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CUNO

Oil Burner Filters
Easier to Stock
Easier to Service

Cuno Engineering Corporation
8521 South Vine St., Meriden, Conn.

Please send information on Cuno MICRO-KLEAN Oil Burner Filters and replacement cartridges.

Name.....

Company.....

Address.....

background of experience in the field. At the same time, the appointment of *Edward Hartnett* as assistant sales manager, in charge of installation and servicing, was announced. He will work out of the company's Boston office in charge of the New England area; Mr. Dobson will operate from the New York office to provide more complete coverage for the eastern market.

John L. Shank on May 1 became representative in the Indianapolis, Ind. territory for Taco Heaters, Inc., Providence, R. I. Mr. Shank, who will maintain an office at 117 E. Washington St., Indianapolis, formerly worked in the engineering departments of two prominent wholesalers for fifteen years and has had three and a half years of sales experience, the last two years as a manufacturers representative.

Paul K. Addams, president, Fitzgibbons Boiler Co., Inc., New York 17, N. Y., was featured speaker at the May 11 morning session of the 61st annual convention, Heating, Piping and Air Conditioning Contractors National Association, New York, held May 8 to 11 at San Francisco. Mr. Addams' talk covered the subject "Sales Promotion as an Aid to Selling."

Victor W. Blackney has been named branch manager of the recently established branch sales office, established at 5736—12th St., Detroit 8, Mich., by National Radiator Co., Johnstown, Pa. The area, formerly covered by the company's Chicago office, will be under the supervision of Mr. Blackney in the sale of the National line in Michigan and portions of Ohio. Mr. Blackney, associated for many years with the heating industry, prior to joining National Radiator last year as educational director, had been with U. S. Radiator Corp.

DEALERS

Here's Fluid Heat's New, Unique Plan to Skyrocket Your Profits in 1950!

NEW ADVERTISING

NEW MERCHANDISING

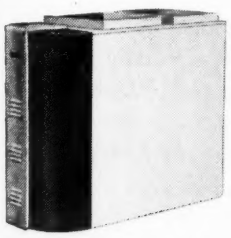
NEW CUSTOMERS

NEW SALES

NEW PROFITS

It's Fluid Heat's great new Advertising and Merchandising Campaign . . . the *only* heating campaign in history that *sells the Fluid Heat Dealer as much as it sells the product!* Every single ad that appears in *Better Homes & Gardens* and *American Home* tells thousands of potential customers in your territory to " . . . *see your Fluid Heat Dealer!*" Here's your opportunity to tie up with an old, established manufacturer who *really helps you sell* . . . not only with colorful, hard-selling ads in the nation's leading home publications . . . but with *free* newspaper mats, radio scripts, direct mail letters, literature, etc. . . . backed by a product you can stake your reputation on for top-quality construction, trouble-free service, long life and complete customer satisfaction!

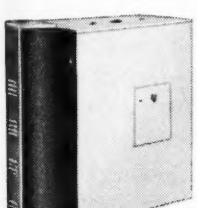
We'd like you to see for yourself how *you can make more money with this big, new, Fluid Heat Promotion* . . . so, if you'll just fill in the coupon and mail it to us, we'll send you reprints of our unique consumer ads . . . plus full information on Fluid Heat's exclusive Franchise Plan. No obligation, of course. *Do it now!*



Air Conditioning Furnaces, 5 models from 70,000 to 200,000 B.T.U. per hour.

Pressure Burners, 4 models with firing rates from 7/10 to 12 gallons per hour.

Wall Flame Rotary Burners, 2 models with firing rates from ½ to 4½ gallons per hour.



Boiler Burner Units, 3 models from 475 to 840 sq. ft. of standing hot water.

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AUTOMATIC OIL HEATING
"WORLD'S ECONOMY CHAMPION"

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You bet I'm interested in your big, new, program for skyrocketing my Fluid Heat sales and profits! Rush me complete details!

Name .....

Address .....

City .....Zone.....State.....

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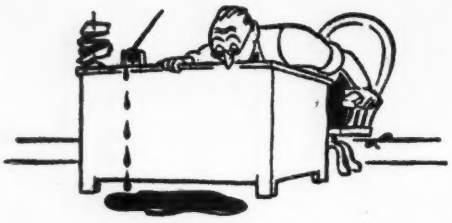

Editorial Leaks

Straws in the wind are beginning to indicate that the oilheating industry may be in for a surprise this year on sales volume. Three separate manufacturers have mentioned to us at different times that they are not able to accumulate any inventory to take care of the late summer and fall rush.

One of these was a boiler manufacturer, another a transformer manufacturer and the third makes controls. Their stories were almost identical. They had scheduled factory production on the basis of 1950 being 15% or 20% above last year, and expected to have warehouses reasonably filled by July.

The trouble is that dealers keep buying the darn stuff as fast as they make it, and no backlog of inventory is being accumulated against the coming peak season. Of course these factories are stepping up their schedules, since they must have stocks by mid-summer.

This is not a prediction . . . it's simply an observation of the moment . . . but the early months of the year point to a possibility that 1950 could be our industry's largest volume year, in spite of increasing competition from other fuels.

Some of our larger refiners believe that oilheating expansion will be slowed down by gas to the point where it will grow only six to eight percent a year, measured in fueloil demand. That is a dangerous assumption, looking back to what happened in 1947 when oil men also underestimated the growth in number of burners.

There is a chance that the needs for heating oil East of the Rockies next winter will be fully 20% above last winter. There is plenty of crude oil and plenty of refinery capacity . . . if it is put to work in time. The situation calls for careful attention from here out.

◈

At the Kansas City meeting of the Marketing Division of API, one of the principal speakers had quite a little to say about "fueloil jobbers." In the sense that he used it, meaning the company that delivers the fueloil to the user, the term is a misnomer. Through the years it has cropped up a good many times, mostly in the Midwest, and its use always calls for an explanation.

The gasoline and lube oil jobber, often called the "oil jobber" is actually a middleman who sells his wares to service stations, and they in turn retail it. In most instances he also handles some No. 2 heating oils, but almost invariably he sells these direct to the consumer and makes the deliveries in his own trucks. That is a strictly retail type of operation.

In larger cities, and throughout the East Coast generally, the majority of heating oil is sold to consumers by companies that handle no other petroleum products. These companies think in the terms of a retailer on all matters.

To bridge the gap between these two groups, the term "fueloil distributor" was coined some 15 years ago. It is a term that stays above the kerosene peddler level and also above the level of the corner store that might sell No. 1 oil for space heaters. It is a dignified word that embellishes the name of the company to which it is appended. Let's use it more, calling them fueloil distributors.

◈

Another difficulty with high gas heating costs in the East has come to light out in Locust Valley, Long Island. A group of well built small homes put on the market a couple of years ago carried "Veterans' Preference," as such builder developments often do.

However, the gas heating equipment put in to save initial costs has proven to be anything but a "Veteran's Preference." Although the houses are small the occupants found winter gas bills running as high as $35 and $40 in the peak months.

After talking it over last winter, they concluded that the only way out was to switch to oil, and this year they could do it because they had those Government windfalls, the insurance refunds, to take the bite out of the expense of changing over.

◈

In speaking before the Empire State Petroleum Assn. in New York recently, Paul Blazer, Ashland's chairman, had a lot to say about industry pricing practices. His official statements are reproduced elsewhere in this issue, but some of his best remarks were "ad libs."

Among these was his stated opinion that it is injurious to the industry for the major companies, every time they make a price change, to rush a copy of the particulars to the metropolitan newspapers. In his opinion, Government agencies assume that this practice is to let all competitors know what they have done so that they can promptly follow suit. For this reason he thinks the industry is indulging in unsound public relations.

From the fueloil distributor's viewpoint the practice is especially bad for a totally different reason. When he is trying to get all of his customers to fill up during the summer, he finds some of them hesitant because they are convinced that prices fluctuate widely and often.

There's another twist to the thing. If price changes were not publicized, the fueloil distributors would have more courage to adjust their own prices by fractions to get the margins that some of them seriously need to make a profit. This is particularly important where a distributor hesitates to give his consumers better service that would actually enhance the public's regard for oilheating, because he is afraid to add to his price the necessary few mills a gallon.

Actually most of the families who buy fueloil don't know just what they pay for it, but the distributor is more often than not afraid to take a chance, even when he knows that he would be favoring the customer.

Do the majors have any sound reason for sending price releases to the daily consumer newspapers?

◈

The Battelle Memorial Institute has been making studies for the bituminous coal industry. In a new report some of its experts conclude that gas made from coal can never compete with natural gas on Btu's and price. Coal men therefore must promote electricity made from coal, including railroad electrification, the report adds. For years this has seemed to some of us the only long range solution to the mine owner's problem.

MEN OF DECISION

Herbert M. Spade, General Manager
Oil Heating Division
E. ROBISON, INC., HARTSDALE, NEW YORK

"VENTALARM Tank Signals on all inside tanks are an indispensable part of our fuel oil delivery system. They have eliminated "not at home" stops, reduced spills to a minimum, simplified degree-day work and made it possible for us to average 24% more gallons delivered per truck per hour on small tank drops.

These savings pay our cost of installation in a few deliveries and make VENTALARM Signals a "must" for us. With operating costs doubled in the past 10 years, it is difficult to see how we could make a satisfactory profit using old-fashioned delivery methods.

Old and new customers both appreciate the added convenience and protection of completely automatic VENTALARM deliveries and we find gas competition easier to beat when the question of oil supply and deliveries is answered so satisfactorily."

H. M. Spade

Write today for exciting facts about what the VENTALARM decision has meant to more than 3500 fuel oil dealers all over the country. Address inquiries to:

SCULLY SIGNAL COMPANY, 76 First St., Cambridge 41, Mass.

Watch for outstanding MEN OF DECISION in future issues

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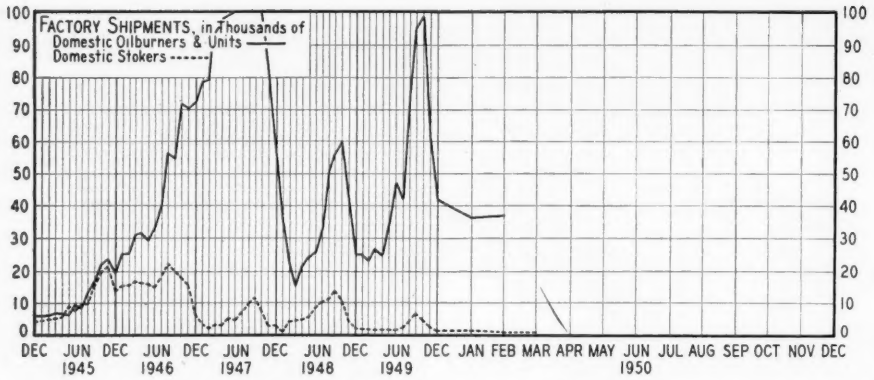
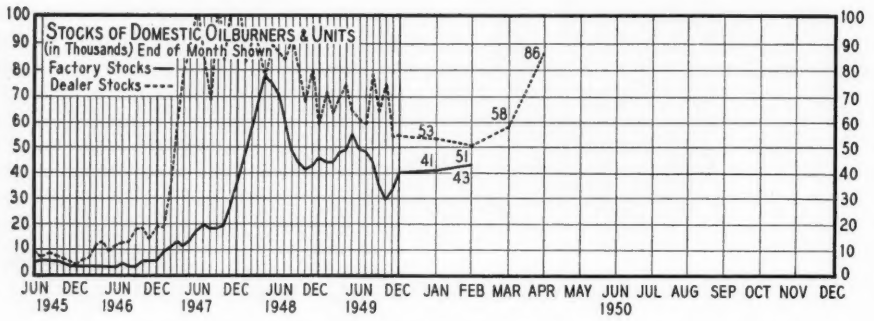

FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units
Domestic Stokers
DEC JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1945 1946 1947 1948 1949 1950

Shipments of Oilburners and Units

(Including Exports)

Adjusted to include manufacturers other than the 152 reporting to Census Bureau, FUELOIL & OIL HEAT'S estimates of shipments are:

	MARCH			THREE MONTHS		
	1950	*1949*	*Percent Change*	*1950*	*1949*	*Percent Change*
Conversion	38,457	19,174	+100.5	91,867	57,126	+ 60.8
Boiler units	4,433	1,991	+122.6	11,129	5,669	+ 96.3
Furnace units	9,366	4,425	+111.6	22,890	11,870	+ 92.8
All Domestic	52,256	25,590	+104.2	125,886	74,665	+ 68.6
Commercial	2,422	1,667	+ 45.2	6,115	5,307	+ 15.2
Total	54,678	27,257	+100.6	132,001	79,972	+ 65.0


STOCKS OF DOMESTIC OILBURNERS & UNITS
(in Thousands) End of Month Shown
Factory Stocks
Dealer Stocks
86
58
53
51
41
43
JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1945 1946 1947 1948 1949 1950

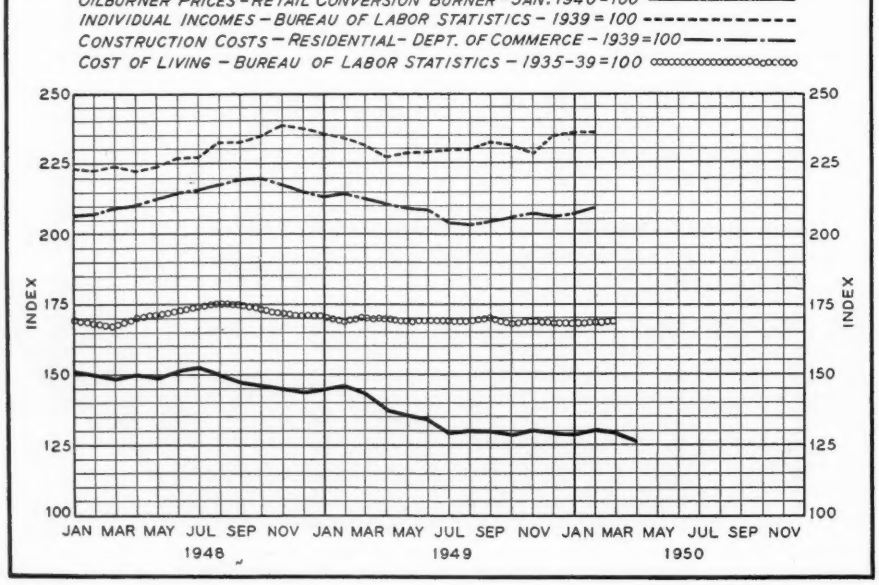
April Minimum Retail Prices: Key Dealers

	CONVERSION BURNERS	BOILER-BURNERS	FURNACE-BURNERS
April Aver.	$304	$652	$566
March Aver.	307	652	563

Price Index: Conversion Burners: January 1940 is 100%

	WHOLESALE				RETAIL			
April	121.6	Six months ago	128.1		April	126.3	Six months ago	128.9
March	120.9	Year ago	134.0		March	128.9	Year ago	137.2

OILBURNER PRICES COMPARED TO GENERAL INDEXES


OILBURNER PRICES - RETAIL CONVERSION BURNER - JAN. 1940 = 100
INDIVIDUAL INCOMES - BUREAU OF LABOR STATISTICS - 1939 = 100
CONSTRUCTION COSTS - RESIDENTIAL - DEPT. OF COMMERCE - 1939 = 100
COST OF LIVING - BUREAU OF LABOR STATISTICS - 1935-39 = 100
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1948 1949 1950

Oilheating Trends

ESTIMATED INSTALLATIONS of domestic oilburners and units in April were 49,152, or more than double the 23,139 installed in April 1949.

For the first four months of the year installations were 137,045, a rise of 41% over the 97,068 for the same period of 1949.

April installations were divided: New homes 12,588; Replacements of old oilburners 5,387; Conversions from other fuels 31,177. For the full four months the division was: New homes 40,607; Replacements of old oilburners 24,218; Conversions from other fuels 72,220. No particular study has been made to project future sales for the year but if the present rate of gain should carry through the totals would run up toward 900,000 for the year.

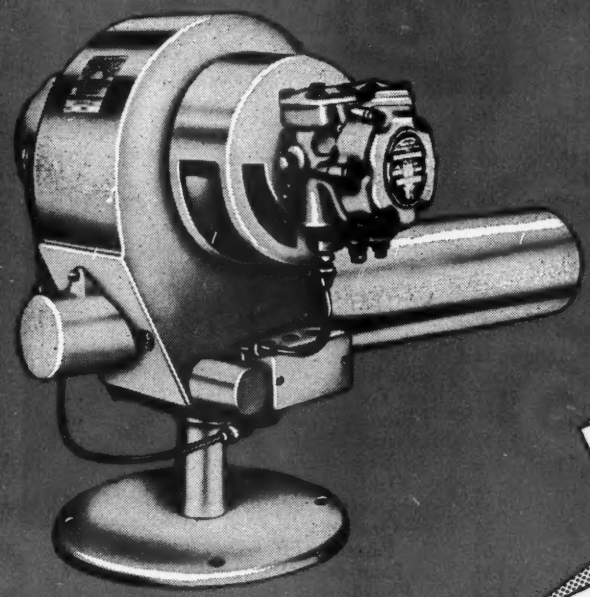
BURNER STOCKS: On May 1 dealers had on hand approximately 86,310 domestic oilburners and units, a very pronounced rise from the 58,793 of April 1. Not expecting such a big jump in dealer stocks no questions had been asked to learn why, so we must assume that they expect a strong year and want to be fortified with inventory. Factory stocks on February 28, the latest available data, were 43,185.

REDUCED SPRING PRICES: One factor influencing dealer stockpiling of burners is the fact that 21% of the reporting dealers say that their burner manufacturers give a special discount on spring deliveries. This discount ranges anywhere from 2% to 10% but for the group it averages 4.4%. Some dealers are also able to get spring discounts on accessory items. Among those reporting, 4% say that they get spring discounts on controls, 5.4% report getting pre-season discounts on pumps and about the same number have this experience on motors.

Dealers in turn are inclined to offer special price inducements to their prospects to stimulate spring selling, with 27% of the reporting group saying that they follow this practice. Their publicized spring discounts are usually 10% but there were enough lower ones to bring the average down to 9.4%. This spring discount idea has not been checked in earlier years so we can't know how much this has been responsible for the large volume this year.

3 amazing features

make SUN-RAY a standout



DUAL CARBURETION

PATENTED COMBUSTION HEAD

AUTOMATIC ELECTRIC OIL BRAKE

Here is the burner that combines 3 great improvements to produce fuel savings up to 35%. It's this great combination in burner engineering that puts Sun-Ray Series "S" Burners at the top in quality, performance and unequalled dependability.

1—***The Patented Combustion Head*** provides controlled atomization of oil and controlled flame to give complete combustion with greatest fuel economy. It raises CO_2, lowers stack temperature, requires less draft.

2—***Sun-Ray's Dual Carburetion*** produces clean combustion, burning catalytic as well as straight distillate fuel oil with equal efficiency.

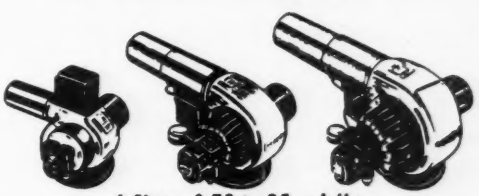
3—***Sun-Ray's Automatic Electric Oil Brake*** assures instantaneous oil cut-off, without after-drip, soot and odor . . . helps eliminate pulsation.

These great features, combined with Sun-Ray precision engineering, Sun-Ray sales cooperation, catalogs, folders, newspaper mats and displays help make every Sun-Ray Burner easier to sell and stay sold. That's why today Sun-Ray is one of the fastest selling oil burners the world over.

Inquiries invited from boiler and furnace manufacturers.

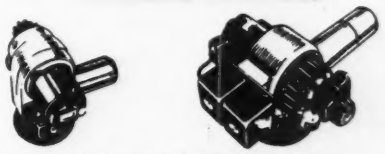
SUN-RAY MODELS

Series "S"—3 Sizes—0.75 to 6 gal./hr.



6 Sizes—0.75 to 25 gal./hr.

MARINE MODELS



4 Sizes—0.75 to 25 gal./hr.

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FULLY AUTOMATIC
OIL BURNER

Famous the World Over for Quality & Economy

SUN-RAY BURNER MANUFACTURING CORP.

139-22 Queens Blvd. Jamaica 2, N. Y.

SUMMER OIL PRICES: There has been considerable speculation in the industry over just how much of last summer's program will be repeated this year in fueloil pricing gymnastics. One-third of the reporting fueloil distributors say that their supplier is planning another guaranteed price program for consumers to stimulate summer fill-ups. There is some geographic variation on this: in New England 32%; in Mid-Atlantic states 38%; in the Midwest 29%; and in the Pacific Northwest 20%.

The fueloil distributors were then asked if they believed that guaranteeing consumer prices through the summer with September adjustments was a good idea: 46% think that it is; 54% are against it.

The fueloil distributors were then asked to vote on another three-way question. Among the group 17% think it would be most practical to give a summer discount to dealers only; to encourage them to push consumer fill-ups; 56% believe that the best idea is to give a summer discount to dealers which in turn is passed along to consumers for the same purpose; the remaining 27% think that neither plan is practical and that summer discounts should not be used.

SALES RESISTANCE FACTORS: With oilburner sales moving along in fine shape, there naturally are sales resistance points that prevent even larger volume. These sales resistance factors were checked a year ago and again this month to determine their relative importance and also their changes from 1949. The table shows a relative weighting given to these factors by the dealers.

It is interesting to notice in the comparisons of 1950 with 1949 that folks are less concerned about future burner prices and they are no longer concerned at all about oil supply. The other four factors all show a rise of this year over last. Those believing that oil prices are too high are most numerous in the Midwest where the dealers have to fight cheap gas and in the Pacific Northwest where they have little or no gas and where the suppliers are able to keep them high for that reason. The prospects who won't buy oilburners because they expect some day to buy gasburners show up strongly in the Midwest, not at all in the Northwest, and very slightly in New England. With increased gas heat-

(Continued on page 132)

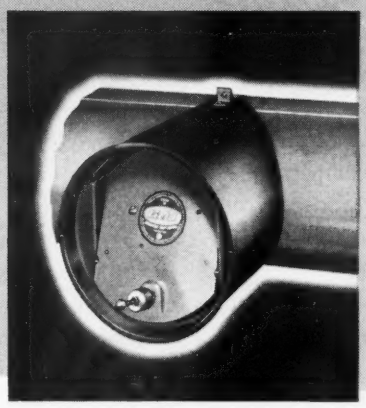
Oilburner* and Building Permits

	OILBURNERS					DWELLINGS			
	April		4 MONTHS			April		4 MONTHS	
	1950	1949	1950	1949		1950	1949	1950	1949
	59	28	204	93	Albany, N. Y.	..	..	..	..
	256	350	1400	1321	Baltimore, Md.	380	282	2152	561
	..	..	..	..	Binghamton, N. Y.	15	12	24	35
	..	..	..	..	Bloomfield, N. J.	14	8	33	14
	..	354	..	1120	Boston, Mass.	24	17	86	45
	80	29	241	202	Bridgeport, Conn.	..	..	..	..
	..	..	..	..	Buffalo, N. Y.	47	49	219	83
	1	..	9	..	Columbus, O.	..	..	..	..
	..	..	..	..	Des Moines, Ia.	271	143	520	283
	80	601	371	2566	Detroit, Mich.	1339	1091	5380	2674
	21	20	104	135	Elizabeth, N. J.	1	5	19	14
	56	24	146	71	Freeport, N. Y.	..	..	..	..
	..	..	..	..	Greenwich, Conn.	33	21	118	49
	..	..	..	..	Hackensack, N. J.	9	5	73	15
	47	86	550	376	Hartford, Conn.	..	..	..	..
	..	..	..	..	Hudson County, N. J.	..	..	..	..
	55	25	120	56	Irvington, N. J.	16	2	20	9
	..	..	..	..	Lynn, Mass.	23	16	47	39
	217	8	345	69	Meriden, Conn.	..	..	..	..
	185	185	742	807	Milwaukee, Wisc.	329	250	943	512
	45	60	245	248	Minneapolis, Minn.	320	181	532	315
	18	18	62	49	Montclair, N. J.	..	..	..	..
	..	..	..	..	Morristown, N. J.	..	2	..	..
	40	29	111	72	Mt. Vernon, N. Y.	..	..	..	..
	158	102	405	262	Newark, N. J.	..	..	..	..
	91	56	438	306	New Bedford, Mass.	..	..	..	..
	26	14	110	87	New Haven, Conn.	..	..	..	..
	..	..	..	..	New Orleans, La.	..	..	..	..
	17	26	81	67	New Rochelle, N. Y.	19	4	38	20
	1977	1480	7298	5885	New York City (total)	..	..	..	..
	1443	1132	5398	4452	Brooklyn-Queens	..	..	..	..
	534	348	1900	1433	Manhattan, Bronx, Rchd	..	..	..	..
	143	90	325	420	Norfolk, Va.	145	41	488	128
	..	..	..	..	Oakland, Calif.	..	..	..	..
	38	93	191	241	Omaha, Neb.	133	75	319	135
	24	13	47	31	Orange, N. J.	2	0	3	1
	30	19	70	63	Passaic, N. J.	..	..	..	..
	101	54	206	123	Paterson, N. J.	32	13	65	33
	825	484	2214	1424	Philadelphia, Pa.	..	..	..	..
	..	..	..	..	Plainfield, N. J.	15	10	47	21
	39	38	124	92	Portland, Me.	18	14	42	29
	448	463	1503	1951	Portland, Ore.	219	226	680	644
	8	9	43	31	Poukhkeepsie, N. Y.	..	..	..	..
	..	28	..	172	Providence, R. I.	..	19	..	43
	..	..	..	..	Reading, Pa.	8	1	25	14
	55	77	298	301	Richmond, Va.	68	78	251	265
	131	..	406	..	Roanoke, Va.	..	..	..	..
	219	135	654	550	Rochester, N. Y.	..	..	..	..
	..	9	..	54	Rockville Center, N. Y.	..	6	..	28
	26	29	93	90	Salem, Mass.	12	24	26	32
	24	99	187	428	St. Louis, Mo.	103	52	322	129
	71	145	343	498	St. Paul, Minn.	180	89	362	171
	65	30	257	160	Schenectady, N. Y.	..	..	..	..
	..	..	..	..	Seattle, Wash.	248	153	844	461
	..	..	..	..	Springfield, Mass.	78	56	223	120
	45	16	341	137	Stamford, Conn.	..	..	..	..
	20	5	57	104	Syracuse, N. Y.	67	31	140	101
	..	..	..	..	Trenton, N. J.	4	42	24	47
	..	..	..	..	Utica, N. Y.	20	6	29	10
	191	89	587	334	Washington, D. C.	..	..	..	..
	..	..	..	..	West Orange, N. J.	24	18	85	36
	26	19	63	44	White Plains, N. Y.	10	3	35	27
	74	70	242	241	Wilmington, Del.	50	15	114	36
	162	90	455	356	Worcester, Mass.	..	..	..	..
	47	26	147	88	Yonkers, N. Y.	..	..	..	..
	8086	6714	28718	26264	*Totals*	4274	3033	14328	7108
	+20.4		+9.3		*Percent Change*	+40.9		+101.5	

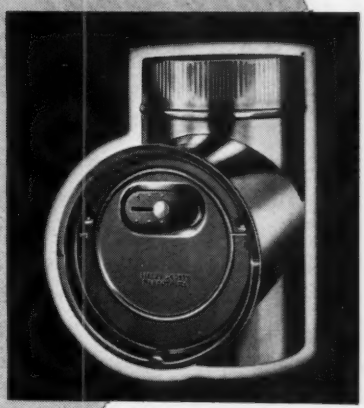
*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

Relative Importance of Sales Resistance Factors

	New Eng.	*Mid-Atl.*	*Mid-West*	*Pac. N.W.*	*Total 1950*	*Total 1949*
Believe burner prices will drop	26%	28%	15%	25%	24%	31%
Can't afford the payments	31	21	14	27	22	19
Believe business will slump	29	24	13	20	22	18
Oil price too high	13	15	25	28	19	17
Prefer to buy gas	1	12	33	..	13	10
Doubtful of oil supply	..	..	..	..	..	5

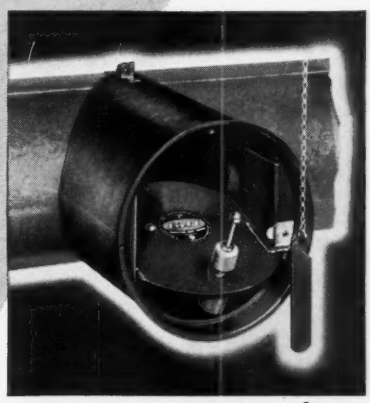


FIELD TYPE "M", **first choice with the manufacturers of automatic heating equipment.**



FIELD SCOTTY, **preset or adjustable, first choice with manufacturers of stoves and ranges.**

FIELD RNA-W, **first choice with manufacturers of hot water heaters, finest control made for the purpose.**



FIELD "BAROCHEK", **first choice among automatic controls for hand-fired furnaces, combination check damper and draft control.**

FIELD FUEL SAVING SYSTEM, **finest of damper motor sets, a door-opener to hand-fired basements.**

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Government Influences on Fuels

by
Milburn Petty

WASHINGTON—Divorcement of refiners from fueloil distribution is one of the objectives sought by the government in the new oil antitrust suit filed at Los Angeles against the seven major companies operating on the Pacific Coast.

Department of Justice officials say similar suits "are in the works" to accomplish the same objectives in other areas. Briefly, these "objectives" seem to add up to disintegration of the major companies, nationwide. The pattern has been set in the Pacific Coast suit.

The suit charges the defendant majors with "conspiracy" to monopolize the oil industry in that area, from the well to delivery of all refined products.

One of the remedies requested of the court, if the government succeeds in proving its charges, was that the business of oil production, refining and transportation be separated from "the marketing of gasoline and other refined petroleum products." (This latter term was defined as including light fueloil, diesel oil and kerosene; heavy fueloil was not listed nor was it excluded.)

Each defendant would be required "to sell all of its facilities for the marketing of gasoline and other refined petroleum products" and to retire from the distribution field except for tank car sales from refineries and terminals.

Attacks Posted Price System

The suit also attacks the practice of posting prices for crude and products which the government says is used as a "market leader" system for maintaining prices. This reflects a view long held by officials of the Department of Justice. The DJ was pleased when the Standard Oil Company of Indiana last year broke away from tradition and stopped posting its prices, also withholding price tabulations from the trade journals.

It is significant that Paul Blazer, a leading independent refiner, recently praised the Indiana Standard's action. Blazer suggested the companies give less publicity to oil price changes. He urged the industry avoid "too much uniformity" in oil pricing because its apparently arouses the DJ's suspicions, however unfounded they may be.

Another angle of the Pacific Coast suit indicating the DJ's ambition to disintegrate the major oil companies was the suggestions to make transportation and storage facilities available to independents and majors alike.

The court was asked—if the suit succeeds—to require that exchanges of refined products should be made available on the same terms to any distributor, major company or independent.

To implement this objective, the court was asked to make the defendants' pipelines "common carriers in fact as well as name" and to make all marine transportation and terminal facilities available to any oil company "on non-discriminatory terms and conditions."

Likewise, crude oil exchanges would have to be available to any producer or refiner, along with the use of tankers, barges, marine terminal and storage facilities used for crude transportation.

May Dismiss API Suit

With the Pacific Coast suit in court, the DJ may now feel that it has filed enough oil antitrust cases to offset any political reaction which otherwise might follow dismissal of the Mother Hubbard Case, pending here since 1940. (This case is so named because, like the South Seas garment prescribed by the missionaries, "it covers everything." And it does, with the API and over 200 major company defendants charged with all sorts of "monopolistic" practices.)

Just prior to the Los Angeles suit, the DJ announced the filing of antitrust suits against two large distributors of liquefied petroleum gas at Phoenix, Arizona. Each was charged with agreeing to lease storage tanks to customers only if they bought all of their LPG requirements from the lessor-supplier. This had the effect of limiting competition, according to the DJ. Defendants were Butane Corp. and Fannin's Gas & Equipment Co. Their sales make up about 40% of all the LPG sold in Arizona, the DJ said.

Oil Import Fight Waxes Hot

The murmured protests against independent oil producers—represented by the IPAA—joining forces with the coal interests to fight against imported oil, are breaking out into the open. Independent Refiner Blazer, for one, has "deplored" this political alliance and warned "that those who live by the sword shall die by the sword."

Blazer's view is shared by many marketers who fear that the coal people, if successful in limiting imports of residual fueloil, would next turn their attention to fueloil, generally, even domestic.

These marketers recall that a dozen years ago Congressman Boland of Pennsylvania sponsored a federal tax on all fueloil as a means of "equalizing" competition between coal and oil. Boland's bill was defeated. But the same arguments against fueloil, generally, were made then as now for a higher tariff to prevent imported residual from "stealing" coal markets.

Majors Defend Residual Imports

Meanwhile, the importing companies have replied to the coal people, saying the coal strike and the resultant uncertainty over coal supplies increased the demand for residual and required them to bring in more from foreign sources.

The same argument was presented by the chief executives of the major importing companies at the recent proration hearing at Austin, Texas. They insisted that residual imports, while trending higher, were "needed" to supplement domestic supplies in order to meet the growing demand. Crude imports are declining, they said.

Apparently, they made an impression with this argument. E. O. Thompson, member of the Texas Railroad Commission, remarked that the importers had "made out a good case" for residual imports. He said the domestic industry could supply all demands for residual—but it would be too costly in terms of the best utilization of our crude reserves.

Slowdown on Gas Projects?

New England congressmen are growing impatient with what the regard as "delaying tactics" by the Federal Power Commission in handling pipeline applications to bring gas "into the last remaining industrial area without this cheap fuel." They charge that coal and railroad interests with blocking approval of these projects. FPC's answer was to announce the scheduling of another hearing "soon" at Boston.

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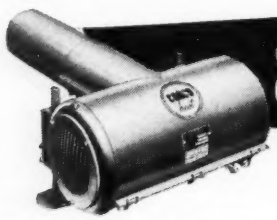

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Distribution of Residential Oilfired Boilers and Furnaces (All Types)

(Number Operating by States on January 1, 1950)

State	Residential Oilfired Boilers		Residential Oilfired Furnaces*	
Maine	43,181		13,636	
New Hampshire	40,167		12,684	
Vermont	11,261		3,556	
Massachusetts	326,301		103,042	
Rhode Island	43,071		13,602	
Connecticut	146,662		46,314	
NEW ENGLAND	610,643	23.1	192,834	10.5
New York	617,100		194,694	
New Jersey	303,071		95,707	
Pennsylvania	280,544		88,593	
MID-ATLANTIC	1,200,715	45.4	378,934	20.6
Delaware	16,640		12,050	
Maryland	110,873		80,288	
District of Columbia	30,836		22,330	
Virginia	63,579		46,040	
West Virginia	585		424	
North Carolina	27,907		20,209	
South Carolina	8,973		6,498	
Georgia	5,487		3,974	
Florida	22,818		16,524	
SOUTH ATLANTIC	287,698	10.9	208,337	11.2
Ohio	30,900		40,960	
Indiana	29,066		38,530	
Illinois	82,987		110,005	
Michigan	87,247		115,653	
Wisconsin	60,463		80,149	
E. NORTH CENTRAL	290,663	11.0	385,297	20.9
Kentucky	1,772		4,134	
Tennessee	3,119		7,278	
Alabama	2,059		4,803	
Mississippi	357		833	
E. SOUTH CENTRAL	7,307	0.2	17,048	0.9
Minnesota	71,394		94,638	
Iowa	28,960		38,388	
Missouri	29,458		39,050	
North Dakota	9,098		12,060	
South Dakota	9,199		12,194	
Nebraska	16,930		22,442	
Kansas	3,139		4,161	
W. NORTH CENTRAL	168,178	6.4	222,933	12.0
Arkansas	597		1,461	
Louisiana	2,655		6,501	
Oklahoma	409		1,002	
Texas	7,854		19,228	
W. SOUTH CENTRAL	11,515	0.4	28,192	1.5
Montana	843		4,425	
Idaho	1,705		8,952	
Wyoming	409		2,149	
Colorado	1,480		7,769	
New Mexico	395		2,076	
Arizona	2,083		10,938	
Utah	1,212		6,366	
Nevada	1,399		7,343	
MOUNTAIN	9,526	0.3	50,018	2.7
Washington	20,667		126,956	
Oregon	12,993		79,815	
California	25,229		154,977	
PACIFIC	58,889	2.3	361,748	19.7
U. S. TOTAL	2,645,134		1,845,401	

*Approximately 40% of these oilfired warm air jobs in use are forced warm air. This percentage is increasing each year. Of the 1949 warm air oilfired installations, 56% were forced air.

NOTE: These estimates are projected from sampling of dealer operations. As in any such study, the figures for those states with the least oilheating, notably the Mountain and Southern States, are subject to a wider margin of error than the popular oilheating states where large representative samples can be acquired.

Help Where They Need It

NEW ENGLAND O.H.I. HAS DEMONSTRATED VIRILITY IN TACKLING MEMBERS PROBLEMS

by
Robert Gray

THE DATE WAS AUGUST 1945. The Japs had just quit. Fred Beckwith, executive secretary of the Oil Heat Institute of New England, had a hunch that quite a number of his members might be quitting too, now that the pressure was off. It was easy for any active trade association to get members during the war years . . . dealers were being hit right and left by things they often couldn't understand, and in a sense of either frustration or of wanting to share their miseries they liked to congregate with others of like affliction.

Earlier than some other industry groups, Beckwith and his directors had reasoned that the reconversion and reconstruction period to follow the end of the war would call for stronger, not weaker, trade associations. Where much of the wartime association effectiveness had been psychological, a job of reassuring, morale building, for the future it needed to be practical, more bread and butter.

So in that August 1945 month Beckwith undertook to whip into shape as a definite program an outline of the things he had been discussing for months with his key people. The result was a full program dated September 1, 1945 and printed on the organization chart shown in the accompanying illustration. It was not to be an overnight accomplishment. Each project that was to represent an extension of the Institute's activities would need study by committees and time to explore the right methods. Yet it must never be allowed to drag. Some fresh undertakings must occur each year, to keep the members convinced that the shop was well on its toes, and that the dues were not only reasonable, but cheap.

Beckwith's conception was for a ten year fruition of the entire scheme. At this point, five and a half years later, well over half of the listed projects are in operation, and nearly all of them have seen some preliminary work. The only thing not visualized at all five years ago was the present threat of increasing gas competition, and yet nearly everything on the program was designed basically to make the public like oilheating better, which is after all the most effective weapon against gas.

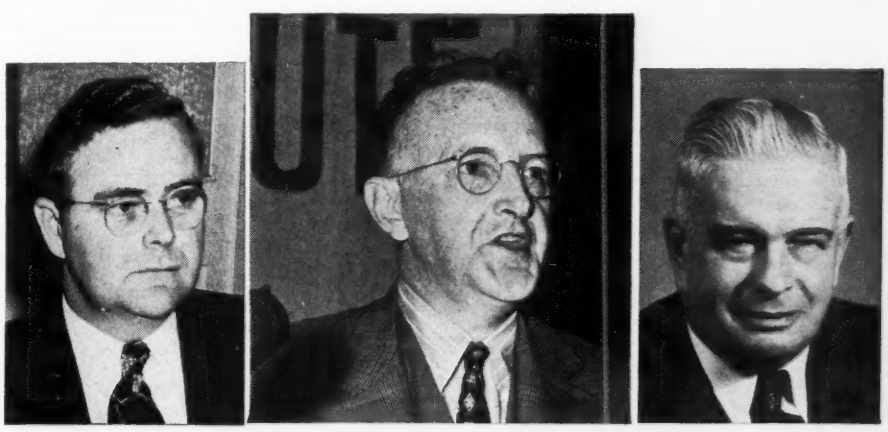
Perhaps the activity of the Institute that is best known outside of New England is the educational program headed up by Otto V. T. Urban. Its primary purpose is to train oilburner service and installation men. No one claims, least of all Urban, that these courses can make a finished technician out of a green recruit as fast as can be done in a full time trade school, yet no one at all familiar with Urban's work would question that these OHI schools in the past five years have made a significant contribution to service capabilities in the region and to public benefit from oilheating.

Now winding up their fifth season, the schools have enrolled more than 3,000 students, some of them repeaters since the courses are changed each year. About 75 men have enthusiastically taken all five courses.

In the 1949-50 season 14 separate classes are being conducted, four of them in Greater Boston and one each in Worcester, Springfield, Hartford, Providence, New Bedford, Brockton, Lawrence, Manchester, Salem and Portland. Next season New Haven is to be added for a total of 15, which is the practical limit under the present arrangement of circulating instructors.

The 15 classes are divided into three groups of five each. Each group has 10 evening sessions, scheduled a week apart. Group I cities have their meetings in the fall, Group II in the winter, Group III in the spring. The over-all length of a course usually exceeds 10 weeks because when a major holiday, like Thanksgiving, occurs all classes for that week are moved ahead.

All classes are of three hour length with a 10 minute break at the center. Students are given home work, consisting of 10 questions on the topic of each session, which they answer at home and turn in next time. To get a passing mark on the course the student must first have 70% attendance and then average 80% on his papers. On passing he gets a certificate and a lapel button, and these are often seen on service men around New England. The tuition is $20 for employees of OHI members, $25 for others, and for the five-season period the department has balanced its budget.



Flanders Beckwith Urban

In the early period Urban conducted some of the classes, but now all of the instructors are provided by manufacturers in the industry, usually either a factory engineer or factory service manager. This man devotes three weeks to the work, one each in fall, winter and spring. During that week he appears before classes in five different cities, one each night. Urban now devotes his time to over-all management of the schools, keeping up the enrollment, introducing speakers, assisting in the question and answer periods and grading and marking around 250 papers each week while classes are in session. He has also found time to prepare in mimeographed form a thousand word resume of the high spots of each speaker's discussion, and these are handed out at the close of a meeting.

This season the ten instructors talk about specific oilburners, each selected by Urban because its service requirements are different from those of the conventional high pressure gun burner.

To get the atmosphere of the classes a visit was made to the one at Manchester, N. H., on an evening in early May. It was General Electric night and the instructor was G-E engineer Louis B. Jones, a very able citizen.

A man who has never before sat through an engineering-service discussion by a factory representative should be prepared for a surprise, especially if his experience in company directed meetings has been on the sales side. Jones in his discussion was completely candid and objective. After an introduction to the basic principles of G-E engineering thought, he waded into an explanation of equipment troubles that the company has had through the years. He would explain some particular difficulty that had developed in the field and show how this had been remedied in later models. Then he would point out the best methods that the company had discovered to correct these trouble spots when the men should encounter them in their service work on the earlier types.

Of course that is the only kind of discussion that could hold the interest of a service school, but the complete sincerity of Jones' demonstration was as refreshing to a novice as the May breeze coming through the windows into the smoke filled room. No one of the 50 service men in that meeting could leave without an increased regard for G-E. Through the questions and general class discussions, topics would veer away from the main one of the evening and encounter other service problems, all educational.

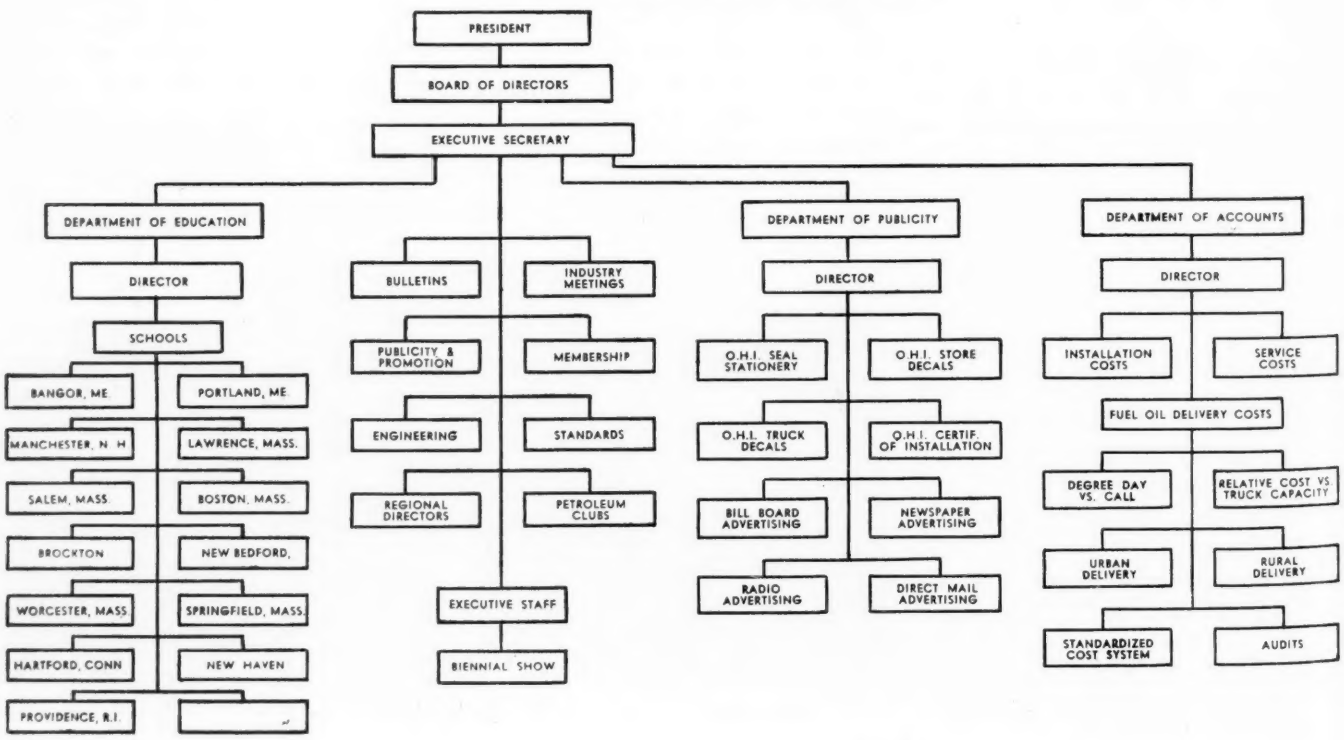
Most students in the courses are either local or drive in from surrounding towns in a 30 mile radius, but at Portland one group comes from 75 miles distant. A very significant inclusion in the class at Manchester is a group of six men from fire departments in five New Hampshire towns. These men attend as guests of O.H.I. and their training is part of a general New England program to improve the quality of oilburner permit inspections. Beckwith wants permit inspectors to recognize a good oilburner installation when they see one, and to reject anything less. In other classes during this season there have been 29 more fire department men in regular attendance, and there were additional ones in each of the earlier years.

Next to its schools, O.H.I. of New England is well known for its oilheating expositions which have been put on every other year since the war, 1946-48-50. These expositions are physically made up of some 120 booths that meander through the ball rooms and other public meeting rooms on the mezzanine floor of the Statler in Boston. A significant phase of this product display is the architectural setting in which

ORGANIZATION CHART

OIL HEAT INSTITUTE OF NEW ENGLAND

September 1, 1945



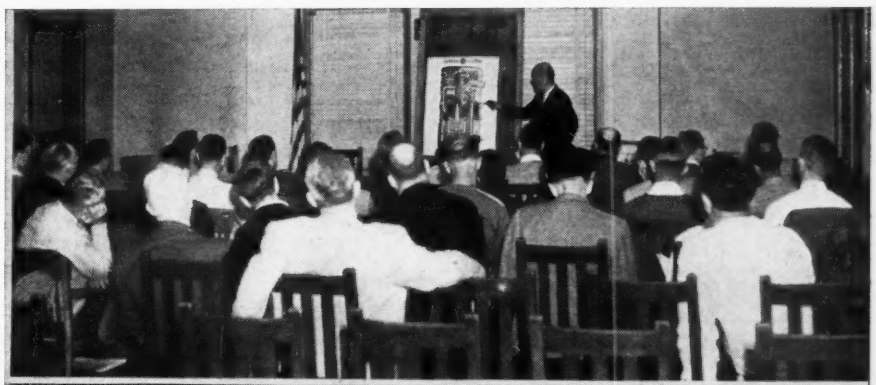
it is held. All rooms are carpeted and the individual booths have rich backgrounds in the designs of the building's interior. About 80 manufacturers customarily exhibit. The general public is excluded from these displays, and doorkeepers admit only men wearing badges received at the registration desk. Of course some segments of the public are individually invited, as for example, 1,200 architects and engineers. The trade registration averages 4,000.

These expositions are usually held for four days, Monday through Thursday, and only on Thursday are there any business meetings with speakers. Beckwith points out that his exhibitors want most of the time to get better acquainted with customers and prospects, either in booths, entertainment rooms, or wherever.

The exposition is a source of revenue to the association. The last one, in 1948, brought in $32,193 and the expenses were $23,278, leaving a gain of $8,915. The goal is to earn $10,000 each time, to give the group an average of $5,000 a year for special promotion and other activities outside of the general expense category. None of the show profits can be used for general operating expenses . . . those must be covered each year by dues.

Membership by invitation only is a New England O.H.I. tenet that has stood up against a lot of pressure. Other associations have generally taken in the bad with the good, on the theory that fraternizing with good, high-principled dealers will improve the bad ones. This would be hard to dispute, but the New England group chose the other tack.

PHOTOGRAPHS: *Excellent architectural settings for the expositions. Below—A visit was made to one of the school classes at Manchester, N. H., where 50 men heard instructor L. B. Jones explain G-E. Six fire department men are class guests.*



They want their seal, "Symbol of Reliability," to mean just that. To join, the dealer must be able to prove beyond doubt that his business methods warrant that seal.

The seal is merchandised in various ways throughout the six states and by now considerable segments of the public recognize it at face value.

Out of about 3,000 companies in New England that handle oilburners or fuel-oil in some way, Beckwith thinks that around 800 should be in O.H.I. At present he has 370 and is planning a special membership drive to add approximately 100 a year for four years. To supervise this he has just recently enlarged the staff by adding Everett I. Flanders, former fire marshal for the state of Massachusetts and before that a lieutenant on the state police. Also he is a graduate attorney-at-law. His principal duties will be to visit present members to learn and discuss their local problems and to invite new prospective members to submit applications.

In getting new members the regional area directors are significant. There are 18 of these who serve as liaison between their regions and the Boston head office. In one way or another recommendations about new members come through them. The usual procedure is for them to propose to Boston that a particular company with which they're familiar be invited to apply for membership. A membership application is sent, either by mail or by person, and this is filled out and submitted for study, assuming of course that the prospective member is interested.

The application blank is a four page affair, including among other things 41 questions that the applicant must answer, giving considerable detail of his operating practices. When the application is completed and sent in, it in turn goes to the regional area director who studies it, either with the local group meeting in the area or informally with some of the principal dealers who know the applicant. If they agree that the statements made are probably true, the man is in. It is a system whereby an applicant's competitors determine whether his business practices would adorn the "Symbol of Reliability" or tarnish it. The basic code of practices of eight points is shown on this page.

Standards of Technical Efficiency and Code of Fair Business Practices

(Adopted by the Board of Directors July 29, 1947)

1. **Each Accredited Member shall have a regularly established place of business . . . and shall be actively engaged as Technical Specialists in the Installation and Service and/or fueling of Oil Heating Equipment.**
2. **Each Member shall have Trained Technicians competent to make necessary heating surveys . . . to determine the proper type of equipment to be installed.**
3. **Each Member shall maintain a Service Department properly staffed and equipped to make repairs and to render service . . . 24 hours per day . . . throughout the Heating Season.**
4. **Each Member shall have Oil-Heat-Institute Trained and/or Factory-Trained Men for the Installation and Service of Oil Heating Equipment.**
5. **Each Member shall carry a regular supply of authorized parts for replacements and repairs.**
6. **Each Member dealing in Fuel Oil shall be strictly scrupulous in delivering the exact grade and quantity of Oil as represented.**
7. **Each Member shall comply with all State and Local Regulations and shall obtain all necessary permits for each installation.**
8. **Each Member shall conform strictly to ethical principles and fair business practices . . . and shall fulfill his agreements with each customer . . . honorably . . . in good faith.**

There are five grades of dealer members, with their dues adjusted to their relative activities and sizes. These grades and their characteristics are:

Membership Classification

CLASS	*Per Cent of Total*	*Annual Dues*
A. Sell oilburners only	25%	$30
B. Sell fueloil, up to million gallons	38	45
C. 1 to 2½ million gal.	28	60
D. 2½ to 5 million gal.	5	80
E. Over 5 million gal.	4	100

From the start of New England O.H.I. Beckwith has mailed out bulletins on timely subjects at frequent intervals. They have not been on a time schedule, but there might be three in a week or none in a month, depending on industry developments. At the time of writing, the most recent bulletin was No. 374.

General industry meetings for the whole Institute are held two or three times a year at Boston, and in addition an annual group meeting is held at Worcester, Springfield, Hartford, Providence, Fall River or New Bedford, Lawrence, Manchester, Salem, Boston and Portland. It has been a goal of the association to establish local petroleum clubs in several New England cities, but thus far only those at Providence and Brockton have the definite tie-in that they must be OHI of N.E. members to join the club. However, most New England cities do have local associations, but these do not limit their members to those qualified by OHI.

The association's work on standards has been quite active. Its recommendations have frequently been adopted by the Massachusetts Board of Fire Prevention and incorporated in the state laws. Last month eight pages of further revisions in oilburner codes were submitted as recommendations. For the State of Rhode Island the Institute recently submitted, upon request, a whole new oilburner code which is expected to go through, inasmuch as it is endorsed by the state association of fire chiefs. New Hampshire has asked the Institute to propose a new code for that state. When these three are out of the way it is intended to ask the remaining three New England states if they will consider code revisions along similar lines, with full support of the fire chief groups. Beckwith believes that all such standards should be state ordinances, never local ones.

While considering standards, it is well to recall the controversial Trade Prac-

tice Rules promulgated in 1948 through the Federal Trade Commission and initiated by the Institute.

In actual application, the Rules have served primarily as a yardstick of behavior rather than a whip to crack. So far 30 complaints have been made to OHI and in each instance Beckwith has mailed the party accused a brief letter enclosing the rules on the point covered and mentioning that he had been cited by someone in his market. In every instance that ended the matter; there were no repeat complaints. No squawks have gone to Washington from any source. Included in the complaints cleared through OHI were two from companies that had most vigorously fought the rules at the start.

The nature of the complaints has been primarily three: selling below cost; misleading advertising; price discrimination.

Under the engineering classification in the organization chart, the principal work has been that by Beckwith on special job problems. Beckwith was a consulting engineer in our industry before he started the Institute; in fact he handled both jobs for several years. The first two years as Institute secretary he served without pay since much of his time was on his own consulting work. Now he does little or none of that on a fee basis, but quite a lot of it informally to help members in trouble.

In April he mailed to all members a plastic pocket chart for quickly computing heat losses, to be carried by the dealers' men responsible for figuring and laying out jobs. This is illustrated.

A look at the Institute's consolidated financial statement might be interesting as a guide to the scope of its operations. The table shows this.

In the department of publicity, which is financed by exposition profits, most of the activities listed on the organization chart have been undertaken on a limited scale. Cuts showing the Institute seal in one or two colors are available in three sizes for members' stationery and advertising. A three-color decal in two sizes is provided for trucks and show windows.

Two attractive mailing folders are current, one having sold 100,000 and the other 50,000. One features the reliability of members identified by the seal; the other glorifies oilheat in general.

All such promotional material for members is charged to the publicity account as bought, and credited back into the account as members pay for it. Thus there is no asset carried for inventory of such material.

At the time of the oil shortage scare two years ago, the Institute spent $3,000 of its own funds for newspaper advertising in several cities. Then it followed this with more ads on a 50-50 payment arrangement with local groups, by which local dealers paid half, the Institute half. The dealers included their names in the ads. Cooperative advertising of local groups under this arrangement is prepared by the Institute's agency in Boston, to emphasize a central and uniform copy slant.

A fair amount of progress has also been made toward the department of accounts, set up on the original chart. When Beckwith tried to get useful cost information on fueloil handling and marketing, he was stymied by lack of any pattern of uniformity in accounting. After several bad starts on this score, he determined to wait for cost information until he could get a uniform account

COMPUTING HEAT LOSS

			Coefficient U	Factor B.T.U. Per Hour Temp. Dif. 70°	80°	90°
Walls (Net Exposed)	Walls Uninsulated	Brick (8") Plastered—No Furring	0.50	35	40	45
		Brick (12") Plastered—No Furring	0.36	25	29	32
		Brick (8") Furred & Plastered	0.30	21	24	27
		Brick (12") Furred & Plastered	0.24	17	19	22
		Brick Veneer	0.27	19	22	24
		Frame	0.25	18	20	23
	Walls Insulated	½" Insulation	0.19	13	15	17
		1" Insulation	0.12	8	10	11
		2" and Over Insulation	0.09	6	7	8
Glass	Single	Outside Doors same as glass	1.13	79	90	102
	Double	"Poor Fit Storm Windows"	0.75	53	60	68
		"Tight Fit Storm Windows"	0.45	32	36	41
Ceilings with Unheated Space Above	Ceilings Uninsulated		0.62	22	25	28
	Ceilings Insulated	½" Insulation	0.35	12	14	16
		1" Insulation	0.15	10	12	14
		2" and Over Insulation	0.12	8	10	11
Floors with Unheated Space Below	Floor	Unexcavated or Unheated	0.34	10	12	14
		On ½" Insulation	0.19	6	7	8
		On 3½" Rockwool	0.09	2	3	4
		Concrete on Ground	0.20	14	16	18

Back

COMPUTING HEAT LOSS (*Cont.*)

			B.T.U. Per Hr. Per Linear Ft.
Infiltration	Windows	No Weather Stripping	65.00
		Weather Stripping	35.00
	Doors	No Weather Stripping	145.00
		Weather Stripping	100.00
	Doors and Windows	Openings on one side only—Count Entire Linear Feet.	
		Openings on two sides—Count side having most Linear Feet.	
		Openings on three sides—Count half of total Linear Feet.	

TO DETERMINE THE HEAT LOSS OF A BUILDING

1. Multiply the number of square feet of net exposed wall surface (outside walls less doors and windows) by factor listed for type of wall construction the building has.
2. Multiply the square feet of glass (outside doors are figured all glass) by the factor listed for its classification.
3. Multiply the square feet of ceiling (ceiling with unheated space above) by the factor listed for type of ceiling the building has.
4. Multiply the square feet of floor (floor with unheated space below) by the factor listed for type of floor used.
5. Multiply the linear feet of crackage of doors and windows (figured according to chart) by the factor listed for its classification.

Note: The sum of the above products is the total B.T.U. heat loss per hour.

Published by Oil Heat Institute of N. E.

CONSOLIDATED FINANCIAL STATEMENT*
March 1, 1949—February 28, 1950

	Cash at Start	*Cash Received*	*Cash Disbursed*	*Cash at Close*
General Fund	$ 1,668	$24,860	$24,445	$2,083
Dept. of Education	522	12,415	10,043	2,894
Dept. of Publicity	70	3,798	5,078	—1,211
Exposition Res. Account	10,127	33	5,970	4,190
1950 Biennial Exposition	..	1,152	248	940
	$12,386	$42,257	$45,784	$8,860

*This period did not include an exposition. In exposition years the gross income is about $30,000 more. The exposition reserve rises in exposition years, declines in others. This reserve is used for non-operating account projects, such as publicity and cost studies.

system adopted by enough marketers to provide representative coverage. Today 40 member companies selling fueloil have adopted the uniform system of accounts recommended and are using it. Within a year this should provide some interesting analyses. (See page 53.)

A standard fueloil contract has been developed by the Institute and its attorney. Quite a number of members use it; others use parts of it. It was not Beckwith's intention that members must use all of it or none, but rather to provide a listing of significant points and sound legal wording to cover them if used by the dealer. A Boston printer supplies them to members at moderate cost if used just as originally designed. A good feature of this contract is that it is self-perpetuating. It is in force until cancelled by either party.

Three types of oilburner service contracts are now in the works, one each with and without burner parts, and the third to include also the extra parts like tanks, lines, chambers, etc. As a guide for this, members are now sending in their answers to a three page questionnaire on service practices and charges.

For an over-all impression of the Institute, an appraisal of this kind is of necessity brief. It can only hit a few of the high spots that come to light in the course of conversations. Any association as active as OHI of New England has had many experiences through the years, good and bad. It has probably never experienced a sensation that some others may get . . . a sense of frustration. It has always known that it was on solid footing with its members; its hourly activity proved that.

To some in the industry Beckwith is an enigma—hard to live with but successful. A real Yankee of the old school he's about as tactful as a brick wall, and as hard to move against his judgment. At some of the national industry meetings he's a bull in a china shop, and some have objected to his approach, his direct shots. Then when the meeting is over some prominent manufacturer will waylay him down the hall and say, "Look Fred, don't let 'em bother you . . . sometimes you're hard to follow but all of 'em know you're doing a great job . . . how can I help?"

NAME OF SELLER
Number Street, City or Town
FUEL OIL AGREEMENT

Telephone Number

SPECIMEN COPY

This agreement made this ..... day of..... 19..... by and between ..... hereafter
Name of Seller

called Seller, and .....hereafter called buyer.
Name of Purchaser & Address

1. The Seller agrees to supply and deliver, and the Buyer agrees to purchase the Buyer's heating oil requirements of.....
fuel oil of an estimated ..... gallons per year, for tank wagon delivery to .....
Delivery Address
..... during the ..... heating season, and for each succeeding heating season thereafter, unless cancelled by either party in accordance with provisions set forth below. For the purpose of this agreement, "heating season" shall mean the period from June 1st of any given year extending to May 31st of the next succeeding year.

2. The selling price shall be the Seller's posted price for household consumers in effect at the time and place of delivery. The posted price for a full gallon is the selling price for a fraction of a gallon in excess of 5/10ths of a gallon, but delivery of a fractional gallon will only be made when it is indicated for safety reasons that further delivery of oil should cease. The selling price may be increased by the amount of any tax or charge imposed by any governmental agency on the sale or delivery. Today's posted price: ..... cents per gallon or fractions in excess of 5/10ths of a gallon as above provided.

3. Terms of payment shall be net cash on delivery, or upon such credit terms as may be approved by the Seller's Credit Department from time to time.

4. In cases of orders for specific gallonage, the Seller will not deliver any excess, subject, however, to the understanding that the Seller is not required to deliver in lots of less than 100 gallons.

5. The Buyer is to provide and maintain suitable storage with outside connections and unimpaired access thereto by tank truck at all times.

6. The Buyer hereby certifies that a permit for the use and storage of fuel oil at this address is either in his possession or is posted on the premises. (This paragraph is required under the State of Massachusetts Regulations.)

7. Deliveries will be made by automatic delivery service unless otherwise specified. Where deliveries are to be made upon the request of the Buyer, the Buyer agrees to give the Seller at least 48 hours' notice.

8. The Seller shall not be held responsible for injury to persons, or damage to the premises or to the property of the Buyer arising out of, or by reason of, delivery of oil hereunder, unless caused by sole negligence of the Seller in making delivery; such claim of damage must be made in writing within seven days after delivery or else the claim shall be waived.

9. The Seller shall not be held responsible for any failure to make deliveries when due to conditions beyond its control, including but not limited to acts of God, labor or transportation difficulties, wars, riots, or governmental acts or requests.

10. It is understood that this agreement will continue in force unless terminated by 30 days' written notice by either party.

11. No understandings, representations or agreements not expressly stated herein shall be binding on the parties thereto, unless such understandings, representations or agreements are reduced to writing and signed by the respective parties, nor shall this agreement be binding until the same shall have been signed in duplicate by both parties.

Salesman .....

Make of Burner .....

Size of Tank .....

Delivery: Automatic ☐ Will Call ☐

Summer Delivery: Yes ☐ No ☐

Buyer's Signature .....

Home Phone No. .....Business Phone No. .....

Accepted by ..... Name of Seller .....

By: .....

Standard Fuel Oil Agreement — Oil Heat Institute of N. E. — 4/15/49.

Uniform System of Accounts For Fuel Oil Distributors

This uniform system of accounts is intended to serve two purposes: First, to provide a simple formula for the classification of accounts which can be adopted by any fuel oil distributor; and second, through the use of a uniform method of presenting financial results of operations, comparisons can be made between any single fuel oil distributor and a group of distributors.

I—BULK PLANT:

a. Salaries and Wages: Compensation paid to yard and yard office employees.

b. Employee Taxes and Insurance: Social security, employers liability, and group insurance applicable to Item "a."

c. Supplies: Stationery, towels, cleaning supplies, etc.

d. Repairs and Maintenance: On real estate and equipment owned. Proportion applicable to bulk plant.

e. Insurance and Taxes: (Land, Buildings and Equipment) On above items.

f. Depreciation of Buildings, Tanks and Equipment: For property owned by distributor. Proportion applicable to bulk plan.

g. Rents Payable: Rented quarters. Usually takes place of insurance, taxes, repairs and depreciation of owned buildings.

h. Light, Heat, Power and Water: Cost of these items applicable to bulk plant. By meter readings or allocation.

i. Telephone: Toll charges charged direct, balance apportioned on some equitable basis (sales, etc.)

j. Storage Losses (self explanatory)

k. Inland Trucking (for discussion)

l. Miscellaneous: Expenses of bulk plant not distributable under any of the other classifications listed above.

II—DELIVERY EXPENSES—DIRECT

a. Wages: Compensation paid to truck drivers, helpers, repair shop employees, etc.

b. Employee Taxes and Insurance: Social security, employers liability and group insurance applicable to Item "a."

c. Truck Repairs: (self explanatory)

d. Taxes and Licenses: on trucks.

e. Insurance: on trucks and delivery equipment.

f. Gasoline, Oil, Grease: (self explanatory)

g. Tires: (self explanatory)

h. Depreciation: on trucks and delivery equipment.

i. Hired Equipment: (self explanatory)

j. Spillage and Shrinkage: (self explanatory)

k. Through-put: Spread between tide water terminal price and major bulk station price.

l. Miscellaneous: Direct delivery expenses not distributable under any of the other classifications listed above.

III—DELIVERY EXPENSE—INDIRECT

a. Salaries and Wages: Of degree-day, help dispatchers and other payroll up to the time of billing customer.

b. Employee Taxes and Insurance: Social security, employers liability and group insurance applicable to Item "a."

c. Office Supplies: Cost of printing tickets and other forms.

d. Garage Repairs and Maintenance: (self explanatory)

e. Garage Taxes and Insurance: On garage building.

f. Garage Depreciation: (self explanatory)

g. Garage Rentals: Takes place of insurance, taxes, repairs and depreciation of owned buildings and additional space when rented for truck storage.

h. Delivery Phone Expense: Toll charges direct balance apportioned on same equitable basis.

i. Policy: Expenses for making good damage caused in connection with oil deliveries.

j. Miscellaneous: Expenses not distributable under any of the other classifications listed above.

IV—SELLING EXPENSE:

a. Salaries and Commissions: Of sales force.

b. Employee Taxes and Insurance: Social security employers liability and group insurance applicable to Item "a."

c. Stationery and Supplies: All printed forms and supplies used for selling.

d. Advertising: (self explanatory)

e. Service Charges Allowed: Service charges applicable to oil delivery.

f. Travel: Of sales force.

g. Entertainment: All entertainment which is properly chargeable to the fuel oil department.

h. Dues and Subscriptions: Cost of subscriptions to papers, magazines and dues of business organizations which are incurred for selling purposes.

i. Telephone and Telegraph: Toll charges direct, balance apportioned.

j. Donations: Contributions made to charitable or other organizations for the purpose of securing business. (Deductible for tax purposes as ordinary expenses)

k. Postage: Cost of postage chargeable as advertising expense.

l. Miscellaneous: Selling expenses not distributable under any of the other classifications listed above.

V—GENERAL AND ADMINISTRATIVE

a. Salaries: Include proportion of all general office and officers salaries applicable to fuel oil distribution. (For discussion charging executives salary at .004 per gallon.)

b. Employee Taxes and Insurance: Social security, employers liability and group insurance not charged elsewhere.

c. Stationery and Printing: Cost of printed forms, service manuals, stationery and office supplies not charged direct to delivery expense.

d. General Maintenance: Of office machinery and equipment and repairs to owned buildings.

e. Insurance: Not allocated elsewhere—also insurance on office building.

f. Taxes: Taxes not allocated elsewhere, also taxes on office building.

g. Depreciation: On office building and office furniture and equipment.

h. Rental: Proportion of rent paid (if not in owned building.)

i. Light, Heat, Power and Water: Cost of items applicable to general and administrative by meter readings or allocation.

j. Credit and Collection Expense: Cost of collecting accounts receivable, attorneys' fees in connection therewith, credit information and reports.

k. Credit Losses: A monthly reserve adequate to provide for probable loss on collection of accounts receivable.

l. Telephone and Telegraph: Cost of telephone and telegraph not allocated elsewhere.

m. Postage: Cost of postage except amount applicable to advertising.

n. Legal and Auditing: All legal fees and expenses with the exception of collection costs, and outside accountants' fees and expenses.

o. Dues and Subscriptions: Cost of subscriptions to papers, magazines, and dues of business organizations not part of selling expense.

p. Donations: Contributions to charitable organizations. (Deduction for tax purposes subject to percentage limitations)

q. Miscellaneous: Selling expenses not distributable under any of the other classifications listed above.

Heat from Baseboards

BACKGROUND DATA AND EXCERPTS FROM I-B-R INSTALLATION GUIDE NO. 5

by
Bert Dunphy

"YOU'LL NEVER KNOW until you try it" is an old adage which is proving itself again to dealers who make their first installation of baseboard radiators. The natural reluctance to try something out of the ordinary is dissipated once a dealer has completed his first job and discovers that installation of baseboard radiant panels requires no special construction or engineering methods.

As with all other heating systems, the care with which an installation is figured initially and applied is related directly to the successful employment of it. Reports have indicated that dealers are surprised pleasantly at the ease with which jobs in new homes, as well as in existing homes can be installed.

Tests at the University of Illinois, sponsored jointly with the Institute of Boiler and Radiator Manufacturers, and others conducted by the National Bureau of Standards consistently show that comparatively small temperature differences exist between different levels in the same room of a house when baseboard radiators are used. In fact, the Bureau of Standards stated in a report carried in the October 1949 issue of FUELOIL & OIL HEAT that "The baseboard heating system provides more comfortable environments in dwelling homes than many of the systems used in the past."

Development of the radiant baseboards began during the 1943-44 heating season at the University of Illinois* when tests were undertaken to determine the effect of introducing heat into the rooms by means of long, low panels, heated by hot water. The panels were placed near the floor and extended along the exposed walls of the rooms. At the same time the operating characteristics of the panels were compared with those of conventional, small-tube radiators. Both a one-pipe forced circulation hot water system and a gravity two-pipe, reverse-return hot water system were used.

For the first part of the heating season, small-tube 19-in., 4-tube, cast-iron radiators, set in open recesses below the windows were used in all rooms of the house. For the remainder of the season, the radiators in the living room, dining room and all three bedrooms were replaced with wrought steel pipe extending along the exposed walls of the rooms near the floor.

During the 1944-45 season, the radiators in the living room, dining room, three bedrooms and the lavatory were of an experimental design made in the form of a hollow cast-iron baseboard approximately 6" high, installed along the outside walls and replacing the conventional baseboard. These units were used with a two-pipe, gravity hot water system.

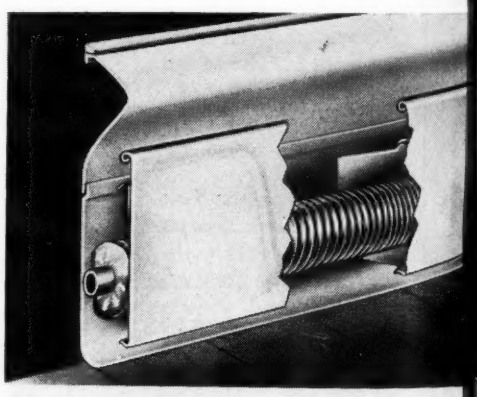
With this arrangement, the average floor to ceiling temperature difference was found to be about 2° F. at an outdoor temperature of 0° F. and an indoor temperature of 72° F. at the 30-in. level. This compared with a 5½° F. floor to ceiling difference obtained when conventional recessed radiators were used. Three inches above the floor the average temperature obtained with the baseboards was 14° F. higher than that obtained with the radiators and the use of a baseboard in the lavatory, which had a concrete floor laid directly on the ground, raised this temperature 6° F.

The conclusion from this latter finding was that baseboards are especially adaptable to basementless houses in which cold floors are prevalent. This condition is offset by the tendency of baseboards to produce a warm floor by delivering heated air at a low level.

The temperature of the entire wall surface below the 60-in. level was higher than that of room air at the 30-in. level when baseboards were used. On the other hand, with conventional radiators the temperature of this portion of the wall surface was from 0.2° F. to 1.6° F. lower than the temperature of the air at the 30-in. level.

No material difference in fuel consumption was detected and when operating with reduced air temperature at night, the performance of baseboards, in general, was the same as that obtained with the radiators.

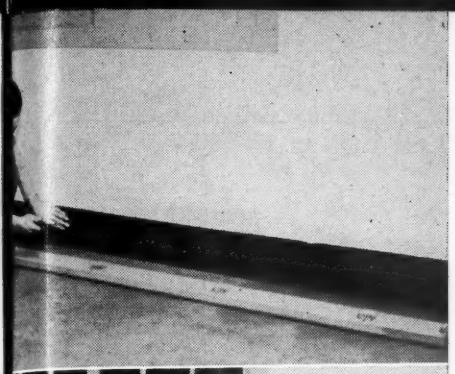
Today, a recent report of Plumbing and Heating Industries Bureau reveals there are twenty-eight firms making baseboard heating units. These are of two general types, one being radiant

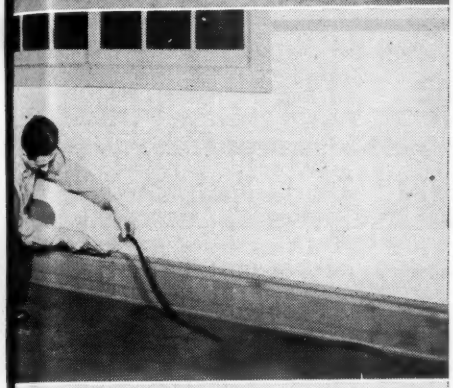


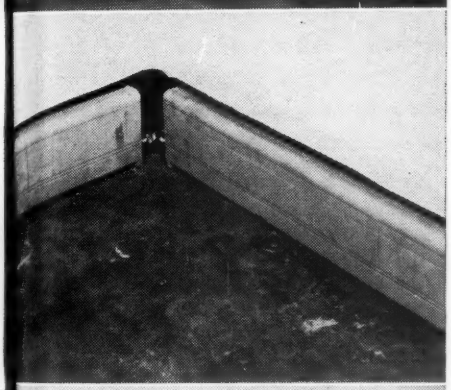
Top: *National Art baseboards, made by National Radiator, an example of the convector type, constructed of copper tubing, on which is bonded a series of helical copper fins.*

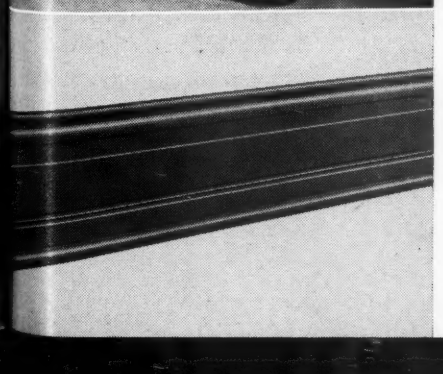
Bottom: *Crane Company's baseboard unit, an example of the radiant cast-iron type. Shown is the use of a clamp to join sub-assemblies, equipped with push nipples. After sections are made up tightly, tie bolts are inserted and tightened.*

*"A Study of Radiant Baseboard Heating in the I-B-R Research Home," University of Illinois. Engineering Experiment Station, Bulletin No. 358.









Installing radiant baseboards. From top to bottom the pictures show:

1. Nailing building paper to the wall at the rear of the baseboard assembly to eliminate streaking.

2. With the baseboard in place, the paper is lapped over the top and covered with ½" quarter round moulding.

3. Connecting units in series at the corner of a room is done by using a ¾" radiator union and close nipple.

4. The elbow is concealed with a neat corner plate. Note top and bottom wood moulding already in place.

5. Valves are covered by a metal enclosure, equipped with an access door, at the ends of baseboard panels assemblies.

6. Standard Base-Ray unit, made by Burnham Corp., from whose installation guide these pictures have been reproduced.

baseboards, designated types R and RC, the other type including convector baseboards. The first type, radiant baseboards or radiant baseboard panels, are made of cast-iron or steel, or hollow construction, approximately as high as a conventional wooden baseboard and just about as thick. Hot water circulates through the units, which are made in sections to be assembled on the job to fit any space. The convection types are made of ferrous and non-ferrous materials. In the former group are those of steel pipe with steel fins, while the non-ferrous types are made of copper tubing and copper fins, or copper pipe with aluminum fins.

Normally, the units are installed on the exposed walls of rooms only, or, if necessary, these are supplemented with units installed on one or more interior walls. Either type may be recessed or installed against the wall. Since wooden baseboards may be replaced readily with baseboard units, they are particularly adaptable to modernization work and when painted to match walls or trims, are inconspicuous.

Installation Guide Number 5, prepared by The Institute of Boiler and Radiator Manufacturers, covers "Baseboard Heating Systems," and presents a simple and economical basis for the selection and installation of baseboard radiators in one pipe forced circulation hot water heating systems. In addition, it gives data to be used with other I-B-R Installation Guides, or with standard reference books to design other types of heating systems, such as two pipe forced circulation, reverse return gravity hot water and two pipe steam systems, using baseboards.

Design procedures outlined in the Guide are applicable to both radiant and convector types of baseboard, with the suggestion interposed that individual manufacturers' manuals should be consulted for details affecting the design and installation of particular products.

The first essential step in determining the size of the heating plant necessary for the system being laid out, the Guide states, is the accurate calculation of heat loss. With modern residential construction tending to reduce heat losses, rule-of-thumb methods usually lead to overloading, resulting in unnecessarily high installation and operating costs. The Guide has simplified the Btu/hr method of calculation to attain an accuracy not inherent in the more casual methods.

R. E. Ferry, general manager of the Institute of Boiler and Radiator Manufacturers, cites a quotation from the I-B-R School of Modern Heating text on the subject of heat loss calculation to illustrate this point:

"For the comparison of results obtained by rule-of-thumb methods I found three rules that were published in 1931," he states. "Two of them were variations of the Mills Rule, while the third was called the Carpenter rule. These three all took volume, glass area and wall area into consideration. However, the type of wall construction did not enter the computation." The results of calculations made for an insulated house showed:

I-B-R calculation	158.6	sq. ft. of rad.
Mills (2, 20, 200)	336	sq. ft. of rad.
Mills (1.25, 12.5, 125)	359	sq. ft. of rad.
Carpenter	372	sq. ft. of rad.

In an uninsulated the results using the same methods were:

I-B-R calculation	416.1	sq. ft. of rad.
Mills (2, 20, 200)	336	sq. ft. of rad.
Mills (1.25, 12.5, 125)	359	sq. ft. of rad.
Carpenter	372	sq. ft. of rad.

For both houses the Mills and Carpenter rules arrived at the same heat loss figure, and compared with the I-B-R

calculation, would have provided for from 13% to 23% too little radiation in the uninsulated house and 200% more than was required for the insulated structure.

Installation Guide No. 5 works out completely two installations, with the steps for each enumerated, explanatory copy enlarging upon each one and sketches and sample work sheets worked out to illustrate methods. Both systems employ a one pipe forced circulation hot water system, the first being a conventional baseboard system, the second a series loop installation using baseboards as part of the main.

Successive steps taken, which are virtually the same for the two systems, begin with a determination of the heat loss, next the selection of baseboards and/or radiators, selection of the boiler and air cushion tank. Final steps include the selection of water circulator size and determination of main and branch sizes.

Alongside each step, wherever applicable, there is included a reference to the table in the Guide from which the information may be found for computing data. These tables occupy the back portion of the twenty-eight page booklet and include information on heat loss factors, Btu/hr requirements for area and volume, equivalent Btu/hr heat loss, ratings for cast-iron radiant baseboard, square feet of radiation for various rates of heat emission and similar tabulations. In all, there are twelve tables with several of them divided into three and four sub-divisions.

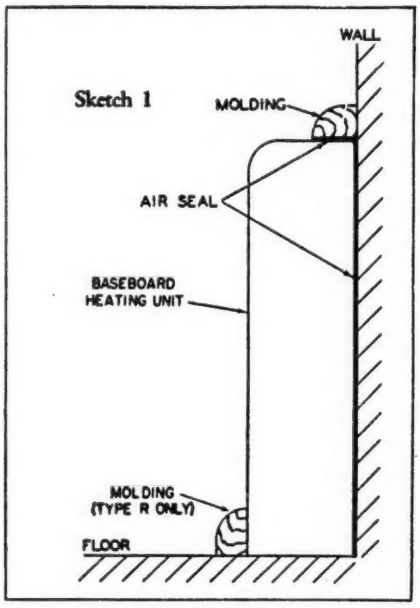
The initial portion of the Guide, under the title "Recommended Installation Practice," cautions that the one limitation as to the type of system with which the baseboards may be used is that normally they are not suited for installation in a one-pipe steam heating system without modification of the piping connections.

Continuing, the Guide discusses location of units, air seal, insulation, piping and controls as follows:

"Baseboard heating units should be installed along exposed walls in place of the usual wood baseboard. If sufficient outside wall space is not available, the remaining units may be placed along an inside partition. For maximum comfort, it is essential that the areas ..... of greatest heat loss be covered.

"Radiators or cast iron convectors may be used in the same system with Cast Iron Radiant Baseboards.

"Since Baseboards are installed against the wall, it is necessary to insure that there is no leakage of air between the wall and the heating element, as such leakage may cause dirt streaks. An air seal installed in back of the units will reduce the possibility of this streaking. This air seal may be made of aluminum foil, asbestos paper or other suitable material and should be installed as shown in Sketch 1. The molding shown at the floor is used only with the Type R units.



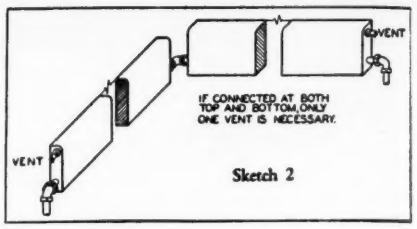
Sketch 1. *Detail of installation of air seal, as pictured in I-B-R Installation Guide No. 5.*

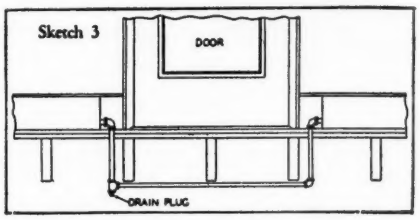
"It is desirable to install as much insulation as possible within the wall behind the units.

"When roughing in the piping, it is necessary to allow for expansion of the Baseboard assemblies by providing clearance around all piping passing through floors or walls. Baseboards may expand as much as ⅛" in 10 linear feet.

"The use of radiator valves is optional.

"Each individual assembly must be vented in hot water heating systems. Where two or more assemblies are connected in series, each must be vented unless provision is made for connections between assemblies at both the top and bottom of the water passage, as shown in Sketch 2.





Sketch 2 *(top). Method of venting when two or more assemblies are connected in series. If connected at both top and bottom only one vent is used.*

Sketch 3 *(bottom). Location of drain plug when units are installed on both sides of a doorway and connected in series under the floor. They may also be piped separately to the main.*

"Two types of one-pipe forced circulation systems may be used with Baseboards: (1) the Conventional one-pipe system and (2) a Series Loop system where the Baseboards are part of the main. Data for both types are included in this Guide.

"If units are installed on both sides of an obstruction, such as a doorway or fireplace, they may be piped separately to the main or they may be connected in series under the floor. In the latter case, the segment of pipe below the units should be so installed that it can be drained, through the use of a plugged tee in place of one elbow as shown in Sketch 3.

"Run the main horizontal, as direct as possible and keep it as close to the outside wall as practical. Keep branches short, as straight and as uniform as possible. Pitch branches up to units above the main and down to units below the main.

"No special controls are necessary with Baseboard heating systems; conventional practice used with other types of radiator systems can be used. Controls should be selected and installed in accordance with control manufacturers' recommendations."

Supplementing this quotation, page 13 of the Guide incorporates seven sug-

gested control arrangements for hot water heating systems for all types of firing.

Cast-iron radiant baseboards have been used to illustrate design procedures, but the same general methods can be applied to install other types.

The conventional installation discussed in the Guide is worked out for a two-story frame house, with exposed wall construction of wood siding, paper, sheathing, 3⅝" rock wool, studs, lath and plaster. Windows are weatherstripped, with no storm sash, and the second floor ceiling, insulated with 3⅝" rock wool, is below a cold attic with no floor. Design temperature is based on 70 degrees F. indoors and minus 10 degrees F. outdoors.

Copies of Guide No. 5 may be purchased from the Institute of Boiler and Radiator Manufacturers, 60 East 42nd St., New York, for 50¢ each; calculation sheets, I-B-R Form 5001-48, are available for 20¢ a pad.

I-B-R also has met jointly with the Home Heating Committee, Heating,

CALCULATION SHEET

OWNER _____ ADDRESS _____ DATE _____

DEALER _____ KIND OF BUILDING RESIDENCE CHIMNEY SIZE _____

CONSTRUCTION: WALL WOOD SIDING, PAPER, SHEATHING, 3⅝" ROCKWOOL, STUDS, LATH AND PLASTER ROOF OR CEILING COLD ATTIC, NO FLOOR ABOVE, 3⅝" ROCKWOOL, LATH AND PLASTER

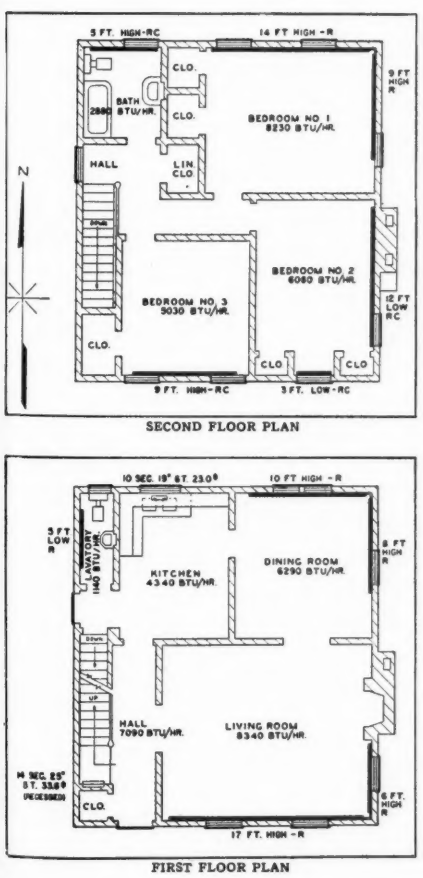
WINDOWS SINGLE, WEATHERSTRIPPED SILL HEIGHT: 1st. FLOOR 26" 2ND FLOOR 26"

BASEMENT HEIGHT: ABOVE GRADE 1'4" BELOW GRADE 5'8" AVERAGE WATER TEMPERATURE 200 F TO 80 F

COLUMN 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
ROOM	ROOM SIZE L	W	H	WINDOW AND/OR DOOR SIZE W	H	AREA, SQ FT GROSS WALL FACTOR	GLASS 1.13	NET WALL 0.08	CEILING 0.08	FLOOR	VOLUME CU FT .018 or .027	BTU AT 70 F TD	BTU AT 80 F TD	LENGTH OF AVAILABLE WALL FT	BTU PER LINEAR FT OF WALL	TYPE & HEIGHT OF BASEBOARD OR RADIATOR	LENGTH OF RADIANT BASEBOARD	FOOTAGE SQ FT
Living Room	18 9	14 8	7 8	3/3	5 0	253	45	208			2062	7300	8340	24	347	High - R	23'	40.7
							3600	1200			2500							
Dining Room	13 0	12 0	7 8	5 0 3 0	5 0 5 0	192	40	152			1196	5500	6290	23	273	High - R	18'	31.9
							3200	900			1400							
Kitchen	13 0	9 8	7 8	2 8 3 0	6 8 3 0	100	27	73			1055	3800	4340	-	-	6T-10S-19"	-	23.0
							2100	400			1300							
Lavatory	8 0	3 0	7 8	2 0	3 0	84	6	78			184	1000	1140	7	163	Low - R	5'	6.3
							500	400			100							
Hall-1st	14 9	6 9	7 8	3 0	6 8	134	20	114			669	3500	7090	-	-	5T-14S-25"	-	33.6
							1600	600			1300							
Hall-2nd	14 5	8 0	7 4	3 0	4 3	101	13	88	106		777	2700						
							1000	500	600		600							
Bedroom #1	15 0	13 0	7 4	3/3	4 3	226	39	187	216		1584	7200	8230	27	305	High - R.	23'	40.7
							3100	1000	1200		1900							
Bedroom #2	14 8	10 8	7 4	2/3	4 3	186	26	160	156		1144	5300	6060	17	356	Low-RC	15'	31.2
							2100	900	900		1400							
Bedroom #3	11 3	11 0	7 4	2/3	4 3	143	26	117	140		1027	4400	5030	11	457	High-RC	9'	26.2
							2100	700	800		800							
Bath	8 0	6 8	7 4	3 0	4 3	108	13	95	53		391	2100	2880	6	480	High-RC	5'	14.6
							1000	500	300		300							
TOTALS													49400					248.2

I-B-R FORM 5001-48 * Corrected Heat Loss Plus 20% FOR USE WITH I-B-R INSTALLATION GUIDE No. 5

Calculation sheet, *showing tabulations to arrive at heat requirements for the conventional installation discussed in I-B-R Installation Guide No. 5. Supplies of the calculation sheets are available from the Institute and have space on the reverse side for estimating.*



SECOND FLOOR PLAN

FIRST FLOOR PLAN

First and second floor plans *of the house for which a conventional baseboard radiation system is calculated in I-B-R Installation Guide No. 5.*

Piping and Air Conditioning Contractors National Association, to discuss, among other things, acceptance by the Institute of the theory, advocated by the Committee, of selling hot water heating systems in the residential field on the basis of water temperatures up to 215° F. or 240 Btu equivalent output per sq. ft.

J. A. Ljunggren, Committee chairman, with a long background in practical heating work, much of it hot water heating, has advanced the theory at Association meetings and in reports in several editions of its *Official Bulletin*. A study was made of weather data for the Chicago area, covering the twenty years prior to the heating season of 1948-49, each year based on minimum temperature readings from September 1 to May 1. On the basis of these weather recordings, Mr. Ljunggren's Committee discovered that 551 days of this 20-year period required water temperatures of 180° F. and over, a percentage of 11.5% or 27½ days per year. Of these 551 days, 128 required water temperatures in excess of 200° F., 2.7% or 6.4 days per year and of the 128 days 17 required water temperatures of 215° F. and over, a percentage of .354% or 20½ hours per year.

"From these records," Mr. Ljunggren reported, "it should be noted that 88.5% of the entire heating season required water temperatures of less than 180, and that approximately 1/3 of 1% required top temperatures of 215°. On the basis of these records, we believe that the recommendations of 240 Btu output as advanced are basically sound. . . ."

Committee recommendations included one that caution be used in selecting the type of heating equipment used in connection with high temperature and that a dip tube at the boiler on the water flow main be used to eliminate air troubles. Also, from Mr. Ljunggren's own experience, encountered on a large housing project, a hot water boiler installed on the same level as the radiation requires a safety loop between the flow and return header.

Summing up, it is apparent that the oilburner dealer installing wet heat, and particularly hot water heating systems, is missing a bet if he fails to investigate the possibilities of baseboard heating application in his territory. With a variety of types and styles to choose from, freedom from any involved or complicated installation techniques, he is confronted with an excellent opportunity to increase his business profitably in new and modernization work, sell comfort to the user and feel the inner satisfaction that comes from a workmanlike job well done.

Gas May Prove a Boon to Oil

OILHEATING MAY BENEFIT FROM A RETURN TO FUNDAMENTALS

by
Kirk B. Shivell*

IT MAY SOUND like heresy to say so, but it is a fact that the impact of gas competition upon the fueloil industry along the Atlantic Coast may prove to be a boon to oil. This does not mean that the oil industry should cease to regard the gas invasion with serious concern—this could be a fatal error—but it does mean that the act of meeting and overcoming gas competition may strengthen oil.

As oil prepares to meet gas, it becomes evident that the oil industry has, in recent years, departed from the fundamental practices which started it off as a vigorous industry a generation ago. In realizing this fact and returning to fundamentals, the oil industry can regain the vigor which has, in many localities, been allowed to lapse.

Until recently, gas was a relatively feeble competitor along the Atlantic Coast. Most of the gas sold there was manufactured and cost many of the utility companies so much to make that the margin of profit in home heating sales was not too attractive to their Boards of Directors. Despite this, however, a number of them foresaw promising possibilities in the home heating market and laid long-range plans and sales programs to penetrate it. Indeed, there are instances where gas companies, although they may have seemed hopelessly priced out of the market at that time, began as long as twenty-five years ago to promote home heating sales. Some of them very likely foresaw that the eventual arrival of natural gas might enable them to sell their vapor at a more competitive price and with greater profit to themselves. Since the war, as natural gas pipelines have been extended eastward toward the nation's best oilheating market, the Middle Atlantic and Northeastern States, gas has become an increasingly formidable competitor. And all alert oil men in this area have viewed the condition with well-justified concern.

Not the least of the reasons why gas has become a serious threat to oil, is the publicity which it has received. For what is no doubt a reason of sheer semantics, there is a high degree of magic in the term "natural" gas. Unreasoningly, many persons are inclined to feel that this is some God-given beauty like air or water and greatly superior to anything which it seeks to replace. The average home owner does not stop to think that gas is, after all, just another form of energy and one which has a number of disadvantages as a home heating fuel. Instead, because of the publicity it has received, gas has become the industrial glamour girl of the nation. It will remain so until oil deglamourizes it by proper counter offensive measures. These measures are in preparation and soon can be applied.

As natural gas reached various eastern communities, it has been sold either straight, as a mixed gas, or as an enriching agent for manufactured gas. But in every recent case, the local heating industry has tended to react in one of two ways. Where oil enjoyed the price advantage on a Btu basis, the oil industry has sought to fight gas on a sheer basis of price comparison. Where there is no price advantage, or where gas has the edge in cost, the local oil industry has been inclined to view with dismay.

Neither reaction is justified. Consumer studies which recently have been conducted in various communities along the Atlantic Seaboard for the Atlantic Coast Oil Conference, Inc., show that in no place, which so far has been studied, is price the most important influence in a homeowner's choice of heating fuel. For example, Rochester, New York, is a city which was hit hard by gas. In November 1949, the Rochester Gas and Electric Corporation, with all restrictions removed on the sale of gas for home heating, embarked on an aggressive sales campaign, pushing manufactured gas enriched with natural. Within four months, it was outselling oil. In the new home market, nine gas burners were going in for every one of oil. Gas had become so highly regarded by local home owners that opinion soundings among them revealed that no less than 46 per cent would choose gas for home heating if they could. The following table shows the fuel preferences indicated in Rochester.

When Rochester famiiles were asked the reasons for their fuel preferences, the influence that stood out more than any other was *cleanliness*. Deplorably enough, over 40 per cent of families interviewed said they felt gas was cleaner than oil, which indicates clearly that this is an impression for the local oilheating industry to counteract, for as long as families prefer cleanliness in heat, they will be inclined to shy away from a fuel which they think is not sufficiently clean.

As to price, gas for heating in Rochester costs 35 to 40 per cent more than oil. Yet Rochester families were so poorly informed, or thought so little about price (probably a combination of both) that they had the following impressions regarding relative costs of oil and gas in their areas.

Clearly there is room for two things in a community like Rochester: one, a revival of industry practices which will

Fuel Preferences—Rochester, New York

Fuel Families Would Choose in Buying a New Home	*Fuel Now Being Used*			*Average of All Families*
	Oil	*Gas*	*Coal or Coke*	
Oil	46%	..	17%	29%
Gas	24%	99%	45%	45%
Coal or Coke	..	..	..	..
Oil *or* Gas	30%	1%	38%	26%

*Kirk B. Shivell is head of Kirk B. Shivell, Inc., an advertising and public relations firm specializing in oilheating. He is counsel to the Atlantic Coast Oil Conference, Inc., for which he directed the consumer studies mentioned in this article.

Opinion of Rochester Families on Relative Costs of Oil and Gas Heating

28% thought it cheaper than gas
15% thought gas cheaper than oil
18% thought them both to be about the same
39% said they did not know

make local families regard oilheat as truly clean and desirable, and, two, a promotional campaign to stress the cleanliness, convenience, dependability and other features of oilheat. Among these other features in Rochester, of course, is price, and this should be properly stressed, but this is still a minor point and not a major premise for a campaign against gas. In short, what is needed in Rochester, as in so many other cities, is a return to oilheating fundamentals.

By contrast, Westchester County in New York is an area where the local oilheat industry not only has good operating practices but also has been carrying on a campaign against gas. Study indicates the following fuel preferences in Westchester.

Fuel Preferences—Westchester County

Fuel Famliies Would Choose in Buying a New Home	*Fuel Now Being Used*			*Average of All Families*
	Oil	*Gas*	*Coal or Coke*	
Oil	82%	30%	32%	55.5%
Gas	14%	65%	22%	28.5%
Coal or Coke	2%	2%	41%	11 %
Oil *or* Gas	2%	..	..	1 %
Uncertain	..	3%	5%	4 %

It becomes evident by comparison with the Rochester table that oil is far more highly regarded in Westchester, and there is no doubt that both the good practices of the industry within this county and its vitality in combating gas have been productive of results. However, the following is significant: In its efforts to combat natural gas to date, the Westchester oilheating industry has largely featured the higher cost of gas, yet Westchester families show the following as the principal influence factors in their choice of fuel.

Influence Factors in Choice of Heating Fuel by Westchester Families

Influence	*Mentioned by*
Convenience	66%
Cleanliness	60%
Economy	40%
Dependability	26%
Safety	8%

In reference to the above, it is interesting to add that a number of Westchester families indicated that they would like to use gas but thought it prohibitively expensive, which indicates that the advertising theme of the Westchester group has registered on families there. However, since convenience, cleanliness and dependability are such strong influence factors among Westchester families, it becomes evident that these, too, should be stressed in Westchester as elsewhere. They are oilheating fundamentals.

Studies in other East Coast communities reveal a similar pattern of thought. An opinion sounding in populous metropolitan New Jersey, recently showed the following to be the most important influence factors:

Influence Factors in Choice of Heating Fuel by Metropolitan New Jersey Families

Influence	*Mentioned by*
Convenience	57 %
Cleanliness	49 %
Dependability	21 %
Economy	17.5%

Evidently, American families want to be made comfortable in a clean, convenient way.

As you may already have remarked to yourself, that is just what oilheat was saying a generation ago. The oilheating business was built on these fundamentals and can be strong today only to the degree to which it adheres to these fundamentals.

Industry Lax in Many Places

In all too many communities, the oilheating industry is not so clean, convenient or dependable as it should be. The oilheating industry has been hurt in the past and is being hurt today by inferior equipment installations. There are, regrettably, some burner makers whose equipment is neither efficient nor satisfactory. And to aggravate this trouble, such burners are apt to be handled and installed by persons whose standards are no better than the burners. Also, there still are many dealers selling equipment or oilburners who do not provide service. These dealers may have got along all right in the past but they are vulnerable to gas competition because lack of responsible servicing may sour people on oilheat.

It is important that the oilheating industry provide, wherever possible, a service of full, *undivided responsibility* to the customer. It has been proved that in areas where oil men operate with full responsibility, gas has tough sledding. In areas where the opposite is true, gas has swept ahead.

Oil Offered More Than Coal

Oilheat sold itself to the American public because it offered something better. American families bought oilheat because they believed it to have more overall advantages than coal. Old-timers in the industry will recall that in the early days when coal people shouted that oil was more expensive than their fuel, this failed to deter the progress of oil. And, if families today buy gas, they will buy it primarily not because it is either cheaper or more expensive than oil, but because they believe it offers greater overall benefits.

But what are the facts? The facts are that oilheat *at its best* can offer everything that gas can—and more besides. Good oilheat is fully as clean, convenient, automatic and dependable as gas. Instead of quailing from the impact of gas, the oilheating industry must aggressively bring these truths into being everywhere and proclaim them loudly.

As to the question of price, in every area oil can claim to be economical. It is a low-cost heating fuel regardless of whether it happens to be a little bit higher or lower than gas; where it is lower, oil men can say it is the cheapest fuel; where it is not, they still can say it is economical.

Oil Offers More Than Gas

Advantages that oil has over gas include the following:

Greater Safety—It is a supportable fact that oil is a safer fuel than gas. This is not a statement to be used rashly; for used indiscreetly, it would well boomerang against the oil industry just as similar statements by the coal industry some years ago injured the coal interests. However, since it is a truth, it should be possible for the oil industry

to exploit it judiciously.

The Oil Storage Tank—Gas men have been claiming that the absence of a storage tank is an advantage for gas. The truth is precisely the opposite. In time of emergency, oil storage becomes a bulwark of protection to the home owner akin to money in the bank or food in the larder.

Freedom to Choose Supplier—We Americans are independent people. We like to be unfettered and unhampered in every way. The fact that with oil the home owner has a right to choose his supplier is a very important advantage.

Personal Interest and Service—Surveys have shown that, when given the choice between dealing with a large impersonal organization and a small supplier, who can give personal, considerate attention, home owners overwhelmingly prefer the latter. This gives oil another big edge.

The latter four advantages of oil are not as yet fully appreciated either by the American home owner or by the oilheating industry. It is up to the industry to impress them upon home owners. And how can the industry do it? Simply by hard-hitting and aggressive selling. These also are among the fundamentals that gave the oilheat industry its start and these are what the industry must return to. If gas hastens this return, it will have strengthened the industry; in which case oilheat may be enabled to grow faster than ever before. And there still is plenty of room for growth. Let it not be forgotten that coal today is still heating more homes than oil.

Studies Survey Farm Use of Fuel and Heating Equipment

POWER AND FUEL, a survey undertaken by *Capper's Weekly*, Topeka, Kansas, in January of this year, was designed to develop information on the types of power and fuel used in major appliances by publication subscribers. Questionnaires were mailed to every hundredth subscriber on the circulation list, with a total of 1,871 returned, representing 43.3% of the mailing. The analysis was based upon tabulation of the first 1,778 completed questionnaires received.

Ninety-two percent of the families covered in the study live in Iowa, Nebraska, Missouri, Kansas and Colorado; 64% live on farms.

The table reproduced below shows appliances reported per thousand homes and the kind of fuel used in each.

Mentions Per Thousand Homes

	Water Heater	*Stoves, Heaters*	*Floor Furnace*	*Furnace (Central Heating)*
Electricity	146	19	..	1
Gas	283	168	84	66
LP	96	58	35	11
Natural	177	105	44	55
Not Stated	10	5	5	5
Kerosene	14	36	2	..
Gasoline	..	..	..	..
Oil	27	203	12	42
Coal or Wood	52	308	..	133
Number of fuel mentions per 1,000 homes	522*	734*	98*	242*
Homes reporting appliances per 1,000 homes	516	677	98	239

*Some respondents reported more than one type of fuel.

A second survey, also announced recently by Capper Publications, analyzed the kind of homes in which *Capper's Farmer* subscribers are living, the basic appliances and furnishings in the homes and other farm buildings owned by the farm family. Information was gathered by questionnaires, mailed to a systematic sample of the entire mailing list. Questionnaires were mailed May 2, 1949, tabulations based on returns received prior to June 1, 1949, numbering 1,725 or 14.7% of the number mailed.

A section of the questionnaire asked for information on home heating equipment, and the returns indicated that 25.1% of the homes are heated with wood or coal, 3.4% by coal stoker, 6.8% by oil, 1.4% by natural gas and 2.0% by LP gas. Responses to queries about furnaces, floor furnaces, heating stoves and circulators, are shown in the tabulation. The percent replying is based on the 1,725 questionnaire returns; the number is a projection on the basis of 1,300,000 *Capper's Farmer* subscribers.

George Sander has been appointed to the New York district office of Penn Electric Switch Co., Goshen, Ind. Mr. Sander has had considerable experience in the application of controls for heating, air conditioning, pumps and similar applications. Before joining Penn he was with the Fluor Corp., Ltd., as a sales engineer and with the General Electric Co. as a project and service engineer in the Appliance and Merchandise Department.

	Now Have		**New In 1948**	
	*Percent**	*Number†*	*Percent**	*Number†*
FURNACES				
Type of Furnaces:				
ANY	39.2**	510,230	4.6	59,536
Piped warm air furnace, with blower	11.2	145,449	3.0	38,435
Piped warm air furnace, without blower	14.3	186,145	.7	9,043
Pipeless warm air furnace	5.5	71,594	.3	4,522
Steam or hot water system	4.5	58,783	.6	7,536
FLOOR FURNACES				
Type of Floor Furnaces:				
Oil	1.9	24,870	.5	6,029
LP Gas	2.2	28,638	.3	3,768
Natural Gas	1.3	17,333	.4	4,522
HEATING STOVES OR CIRCULATORS				
ANY	59.1	768,696	5.7	73,855
Coal or Wood	33.4	434,087	1.3	17,333
Oil	19.7	256,232	3.2	41,449
Kerosene	4.9	64,058	.3	3,768
LP Gas	6.2	80,638	.9	11,304
Natural Gas	2.4	31,652	.2	3,014

*Total returned questionnaires (1,725) equals 100%.

**Some indicated ownership of furnaces by checking type of fuel used, but did not check type of furnace.

†Based on 1,300,000 *Capper's Farmer* subscribers.

Small Forced-Air Jobs Can Be Better

SUPPLY REGISTER LOCATION ONE OF THE BIG PROBLEMS

by
J. W. Schulz

THERE'S NEED TODAY to knock out some of the faults in the low-capacity furnace systems being installed to heat smallest, modern homes. Not all low-output furnace jobs being installed today perform poorly; it's just that too many perform poorly. The result is that in many areas furnace-duct heating is winning itself a black eye, and the same award is going to oil heating because the offending heating plants happen to be oil-powered.

Talk to well-informed service experts, who can tell you accurately what the buyers of new, small homes are saying about the heating comfort they enjoy, if you want to know how well the furnace-duct jobs are doing in a particular locality.

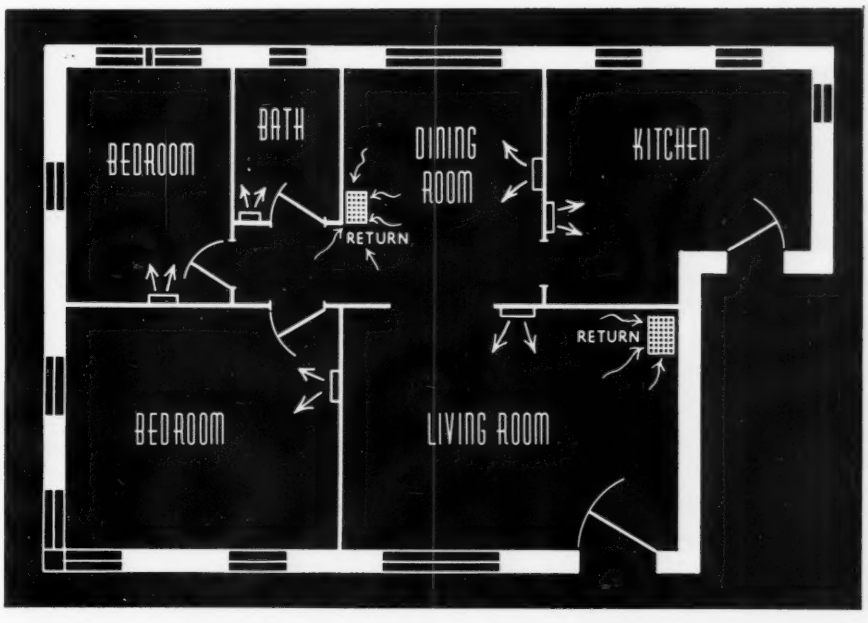
Moving into his brand-new, spic-and-span $7,500 dream house, located in a project that includes 30 to 500 such homes, Mr. Jones understands everything will be perfect, especially the heating given by the last word in a modern oil-fired winter air conditioner.

Mr. Oil Burner Service Man starts up the oil furnace, knowing he is supposed to set it up in a way that will bring no complaints from the owner.

Assume the service man is perfect and does everything he's supposed to. He gives the furnace the proper Btu input and arrives at combustion which is quiet, clean, dependable, and efficient. He makes certain the burner will start often enough, but not too often. He sets the circulating blower for the lowest possible speed which will heat the house properly in coldest weather, and he sets the blower control in a way that will cause the blower to operate much of the time on very cold days, if not continuously. He goes around feeling the blow of warm air from every supply register and the suck of cool air into every return register, and takes at least a stab at balancing the system by adjusting the dampers in the supply ducts. He should use modern instruments, we know, for getting data on CO_2, smoke readings, stack temperature, cfm at the supply registers, and the temperature of the warm air in the supply ducts and at the registers. If he suspects he's on a problem job, he should set up recorders in addition. If he fails to do some of these things he should, we'll have to forgive him. We know how rushed he can be on certain days, and what his boss might say if in trying to be a perfectionist he spent four hours starting up and tuning the little furnace job that the boss sold anyhow at a great cut in prices. Let's just say the service man did an exceptionally good job in starting, tuning, and checking this oil-fired furnace system, therefore expects no complaints from the owner.

Within the next three months, in a case that involves one of these little furnace-duct systems that's winning black eyes for the furnace-duct industry, the service man answers a dozen service calls. Few or none of these relate to oil-burner breakdowns or shortcomings. The big trouble, according to the owner, is that he's just not comfortably heated. One end of the living room is cooler than the other end, or there are cold drafts on the ankles, or you just can't be comfortable on a zero day standing or sitting within five feet of a window in the master bedroom or the living room. There seems to be a basic shortcoming in the system related to air circulation or heat distribution, for no matter how many times the service man visits the house and how hard he tries, he can't produce in the house what the owner calls comfort. He can't produce comfort even though he now brings in the most high falutin' instruments, the ones he didn't use in starting the job because he was in a hurry, for checking on cfm at the registers and air temperatures at the registers and in the ducts. Even going to the trouble of slowing down the circulating blower, of a furnace whose manufacturer didn't make it easy to alter the blower speed, gains nothing in comfort. The gph rate seems high for the heat losses of the house, but even cutting it and perhaps taking chances of plugging the nozzle of a pressure burner does not help.

At this point, knowing he'll receive additional service calls from a home owner he knows now is likeable and rea-



Diag. 1. *The big fault in the furnace-duct heating of smallest, lowest-priced homes shows up clearly in this house plan. The registers have been located to be as close to the furnace as possible, therefore do not provide heat where most heat is needed. Easy correction of the resultant heating discomfort is impossible.*

sonable enough, the service man very likely starts to wonder if greater comfort would not come of installing an additional warm air register, or return register, here or there. He'd install another supply register on his own time, if only this would end the string of "it's just uncomfortable" complaints he's been getting.

Installing one or two more registers won't end the trouble, however, even with the plans for the new ducts and registers made by the best heating engineer for a hundred miles around. A system made shoddy and basically wrong throughout to save $30 in the first place, usually cannot be made nearly perfect by spending four times that much to improve it. Too often, the $7,500 dream house is poorly heated for life because $30 or a bit more was skimped in the planning of its duct-register system. Too often, by the end of the first year, the year during which service calls are answered at no charge, the home owner has reconeiled himself to poor heating. He's learned that, settling down to reading the paper nights, he can get comfort for a while by setting the room thermostat up to 80° . . . he can get comfort, that is, if he settles down in a spot exceptionally comfortable. He goes around talking of the poor kind of heating plant in his new house compared to the system he liked in his old house, and the other new kind of system that gives comfort all over in his sister's or cousin's house.

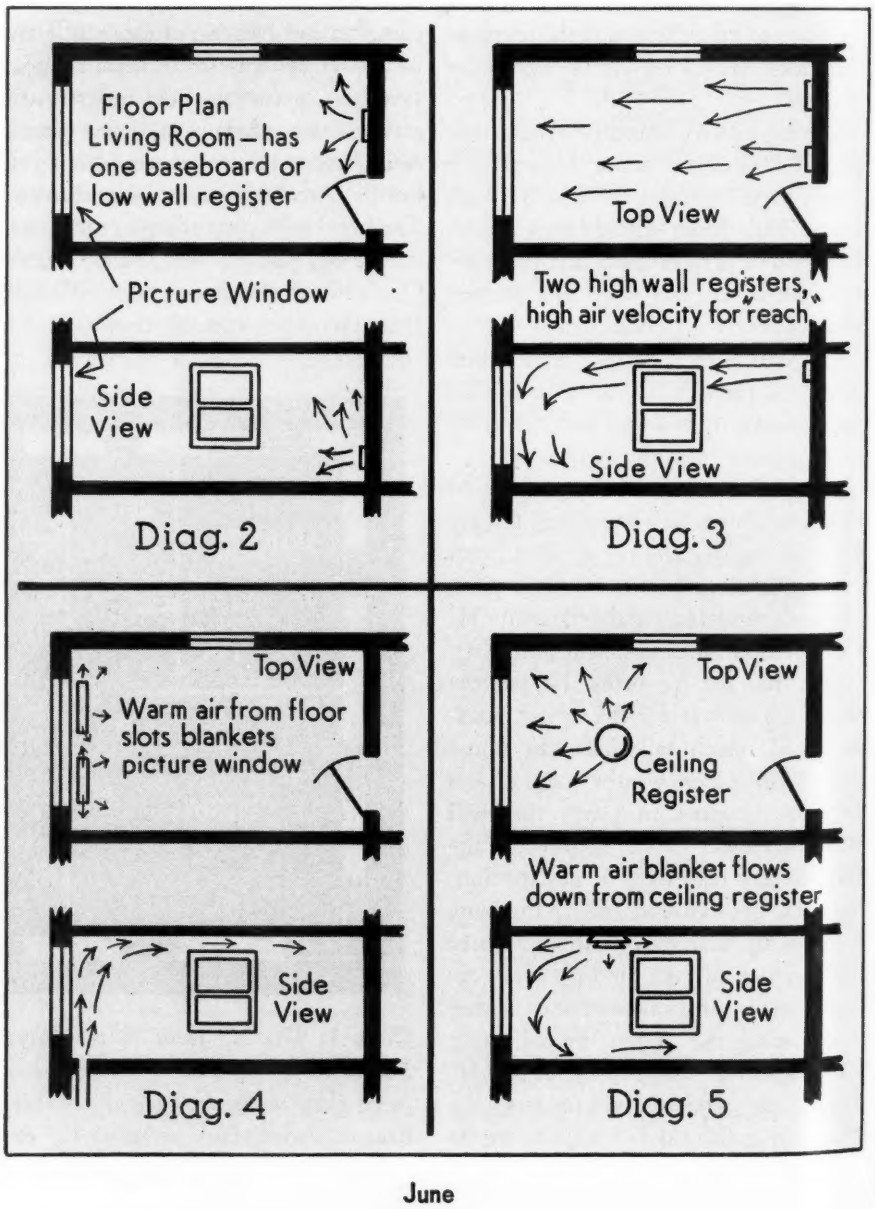
It's time now to end making the big mistake that's causing discomfort in thousands of low-cost homes being fitted with furnace-duct systems. The mistake lies in assuming that pouring enough warm air into a room should heat it comfortably, no matter in which manner or fashion the warm air flows into the room. Tied in with making this mistake is the assumption that it is creditable to hold down the cost of furnace-duct jobs by making every duct as short as possible, and by using the fewest warm air outlets and return registers possible. Working on this assumption, the designer of a system has no difficulty in determining the location of the supply registers of a one-story house; he simply locates all of them on inside walls, at baseboard or low sidewall height, and with each as close to the furnace as possible. Also, the designer provides the cheapest supply registers obtainable. These have vanes which are not adjustable, or which can be termed adjustable only by a tremendous stretch of the imagination. He may skip providing the system with balancing dampers. There may be no easy way to adjust the speed of the blower in the furnace he selects.

The matter of faulty location of supply registers, which heads up this list of shortcomings commonly encountered, deserves far more attention than it is receiving today from price-conscious installers of furnace-duct systems. The extensive use of picture windows and similar large windows, in today's homes which have insulated walls and top-floor ceilings of low heat losses, is in fact making the matter of supply register location far more important than it was only a few years ago. Heat losses of walls and cold ceilings have dropped in recent years, thanks to the now-accepted practice of using house insulation. The heat losses of glass areas have increased greatly with the growing popularity of picture windows. Special double-glass windows, with lower heat losses than ordinary single-glass windows, are not being used widely in lowest-cost homes because of their higher cost.

Producing comfort from a forced-air system depends on the location and types of the supply and return registers. It depends also on the manner in which the warm air comes out of the supply registers, on the supply duct system and the pressures at which this feeds air to the registers.

To concentrate now on the supply registers, these should:

1. Produce a temperature of, say, 72° in every part of every room on the coldest day of the heating season. To accomplish this, the warm air from a register



should unload most of its heat in that part of the room which has most of the room's heat losses. Most heat is needed at the point of greatest heat loss.

2. Create pleasant, draft-free air currents in the room; not in one small part of the room, but in every part of the room.

3. Kill unpleasant, drafty air currents that would exist in the house if the heating plant were not operating. These drafts tend to occur at the bottoms of stairs and at large windows and outside doors.

4. Work against stratification of warm air and cold air at horizontal levels; cold floors make for discomfort for there's truth in the saying, "When my feet are warm, I'm warm all over."

5. Deliver the warm air into the rooms in a manner not disturbing to occupants. Air at high temperature or traveling at high velocity should not play on the occupants.

6. Permit the use of furniture and drapes without interference with the heating. It's not wise to have air streams play on the furniture or drapes.

Shortest Duct Trouble

The simplified house plan shown in Diag. 1 (stairs and closets are not shown for simplicity) has warm air supply registers of the baseboard or low sidewall type that bring no protests from those designers and contractors who, hardened to price-cutting thinking, believe that every supply register should be fed by the shortest possible duct. Located low, these supply registers cannot deliver air into the rooms at high velocities, for this would disturb the occupants. Working of necessity then at low velocities, these registers cannot cause the air to travel across the rooms to the locations of the highest heat losses. A warm pocket of air can be expected around each register; no warm air can be expected at the windows, where heat losses are high and drafts are expected. Notice the picture windows, each single-glass, in the living room and dining room. Although seldom is it a mistake to use two small registers in an important, large room instead of one large register, here the all-important, large living room has one register. Notice the short-circuit possibilities; in each bedroom, air flowing lazily at low speed from the register will short-circuit to the door because there is no return register in the room; the return registers in the dining room and living room tug at the air coming at low speed from supply registers, providing excellent examples of short circuits. The supply registers in the bathroom and kitchen are next to the doors through which the return air must flow out of these rooms, and of course air can come only at low velocities from the registers in these rooms.

The big fault today in furnace-duct systems lies in the fact that thousands upon thousands of low-cost homes are being equipped with supply systems patterned after the system shown in Diag. 1.

How to avoid discomfort and produce with the supply registers the real comfort covered earlier? Diags. 2 to 5 provide the answer to this question by emphasizing some truths that, on consideration, become self-evident.

The same corner room, about 10 ft. x 16 ft. and having one window on the side and a large picture window on the front, is shown in Diags. 2, 3, 4, and 5. As the outside walls are well insulated and the spaces above and below are heated, the single-glass windows of this room form almost all of its heat losses. There's no return in the room; return air flows out the door. However, it is well to consider improving the heating of the room by providing a separate return register for it, located properly for each of the four air-flow patterns shown in the diagrams.

Low Air Velocity

The folly of adhering to the short-duct religion shows up in Diag. 2. Located low, the register would have to deliver its air at a low velocity to avoid annoying occupants. Returning out the door of the room, the delivered air would short-circuit without providing heat at the windows where heat is needed. Installing a return register in the floor just below the picture window, in Diag. 2, would help slightly but would not make the room comfortable. The supply register simply will continue to provide heat where no heat is needed, and fail to provide heat where heat is needed.

Diag. 3, with two high-velocity supply registers located higher than 7 ft. above floor level, to have the fast-moving warm air above the heads of occupants, actually has not worked out well on several experimental installations, though indeed it does follow a pattern. Actually, occupants sitting near the picture window have been uncomfortable because of air blowing down on their heads, and because of cold ankles and feet. High ceiling and inside-wall temperatures resulted from using this arrangement. If a return register were used in the room, it should be under or near the picture window. To provide the high velocity from the supply register, the duct pressure must be run high and there must be a pressure drop at the supply register. This will be mentioned again later in more detail.

Continuous Operation

Diag. 4 shows an idea that has been used again and again, with particular success where special steps were taken to insure the circulating blower's running continuously when the outside temperatures were lower than about 45°. Avoiding interfering with drapes or curtains around the picture window is a problem best discussed beforehand with the house owner. A return could be placed at any of several locations in the room; in the floor under the side window is a good location.

A ceiling supply register, in Diag. 5, gives air circulation precisely the reverse of that of the previous drawing. The register is blocked or adjusted so that most of the warm air from it flows towards the picture window, a little flows towards the side window and side outside wall, and none flows towards the inside walls. Advantages include slight, imperceptible air movement together with excellent circulation of air in the room, and nice adaptability of the air-flow to summer air conditioning. (The air-flow of Diag. 3 is good also for summer conditioning.)

"Of the four arrangements you've discussed," said a heating contractor recently after looking at drawings similar to Diags. 2, 3, 4, and 5, "only the first is clearly without merit. Each of the others has merit, probably could work far better than what's being used today in smallest, cheapest homes. The high, sidewall registers shooting the air across the ceiling have the big advantage of low cost, incidentally, together with

(*Continued on page 124*)

Wall Flame Rotary Oilburners

PART II OF FOUR ARTICLES: INSTALLATION METHODS AND PROCEDURES

by
D. L. Wooden†
and
P. G. Coale*

IN THE PRECEDING ARTICLE we discussed the principles of operation of the wallflame burner and it is vitally important for the installer to completely understand these principles before he attempts to tackle a wallflame burner installation.

Many dealers have avoided the rotary burner field in favor of the pressure burner because they have gotten the impression that wallflame burners are inherently troublesome and must be continually coaxed into doing a good heating job. Nothing could be farther from the truth. The trouble calls stem mainly from the way the burners were installed. On the other hand, many dealers who have adopted the wallflame burner and have taken pains to make good installations can prove that there is less service than with other types of burners. This factor, plus the increased heating efficiency, add up to customer satisfaction and a successful business.

The actual installation of the burner is very much the same as any other domestic burner installation as concerns the pre-installation survey, the wiring and preparing the heating unit for oil firing. We will review all these steps, however, paying particular attention to those features which are unique with the wallflame burner.

In making the pre-installation survey, the following items should be determined:

1. Determine and record the type of heating system.

2. Determine the rating of the boiler or furnace.

3. Measure and record the total heating load and determine whether the boiler or furnace is of sufficient size to carry the connected heating load.

4. Measure inside dimensions of boiler at grate level to obtain hearth size, and determine circumference of flame ring, number of top segments or grills, and size of burner. From this, you can refer to the tables in the installation manual supplied by the manufacturers.

5. Examine boiler with respect to wear and tear and fitness for continued service. It is necessary that the boiler be tight against air leaks through sections and improperly fitting doors. The fire door must be air tight all around. Other doors may be sealed but it is inadvisable to permanently seal the fire door because it must be opened for fire inspection and for work on the burner and hearth.

6. Particularly in warm air systems there is the necessity for absolutely tight combustion chambers because a crack in the combustion chamber of a warm air furnace will allow products of combustion to pass into the air stream that is being circulated through the building. A one piece welded steel furnace seldom develops such leaks, but cast iron sectional furnaces should be examined very carefully for any such cracks that might have developed. This type furnace should be taken apart and re-sealed at all seams whether it has a crack or not.

7. It is necessary that the chimney produce the required draft. The required draft intensities will be specified later under the subject of "adjustment of the automatic draft control." The draft must be free from excessive variations and down draft tendencies. The tops of chimneys should extend not less than 3 feet above flat roofs, and 2 feet above the ridge of peak roofs. Down drafts are caused also by buildings or trees that are within 30 feet of the chimney in question. Any apparent chimney defects should be corrected before the burner is installed. Try wherever it can be done to replace any 90 degree elbows with two 45 degree elbows in the smoke pipe. This is done to reduce friction loss.

8. The pre-installation should also be used to obtain the following information:

Location of the tank. Be sure the basement ceiling is high enough so that the oil tank can be installed to provide a head pressure of oil sufficient to actuate the metering valve, mounted on the control stand at the boiler. The bottom of the tank should be 30 inches above the

†Laboratory manager and
*Field Engineer, Fluid Heat Div., Anchor Post Products, Inc.

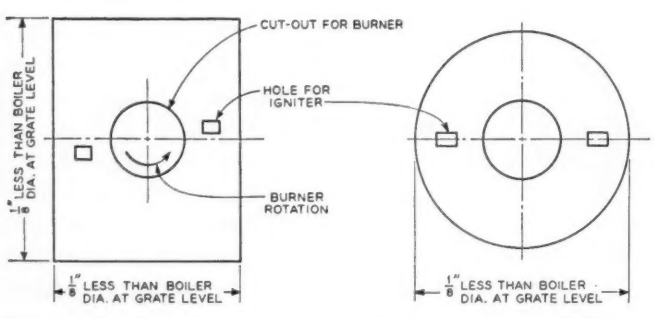

CUT-OUT FOR BURNER
HOLE FOR IGNITER
BURNER ROTATION
1" LESS THAN BOILER DIA. AT GRATE LEVEL
1" LESS THAN BOILER DIA. AT GRATE LEVEL
1" LESS THAN BOILER DIA. AT GRATE LEVEL

Fig. 1. *Typical hearth plate layouts for wall flame burners.*

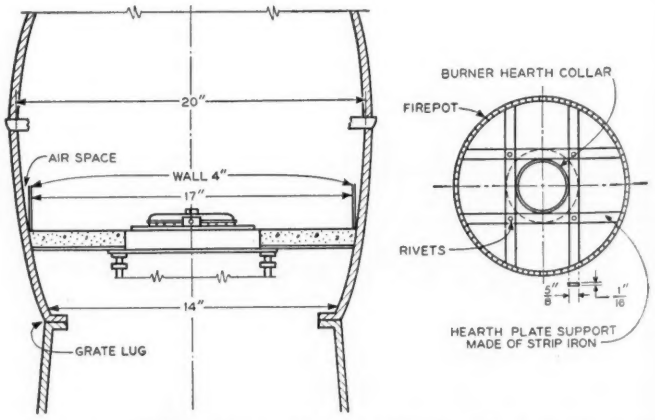


Fig. 1a. *Method for supporting hearth plate when grate diameter is too small.*

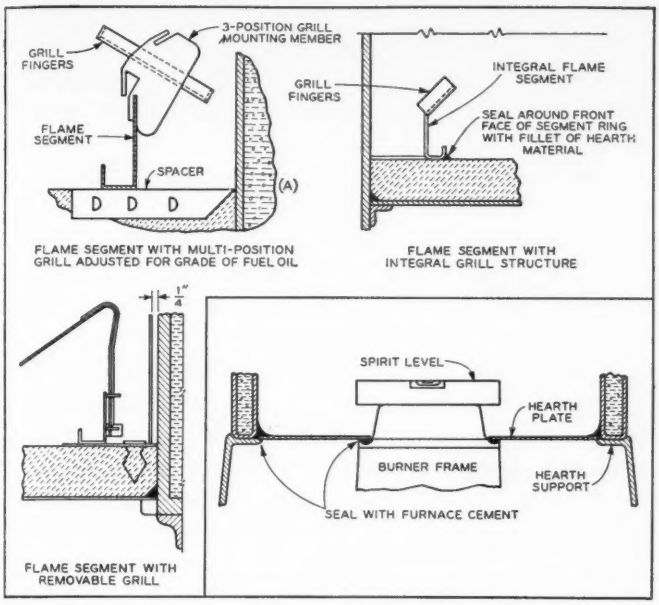


Fig. 2. *(Top and lower left) Typical flame segments.*
Fig. 3. *(Lower right) Sectional view of hearth plate installation.*

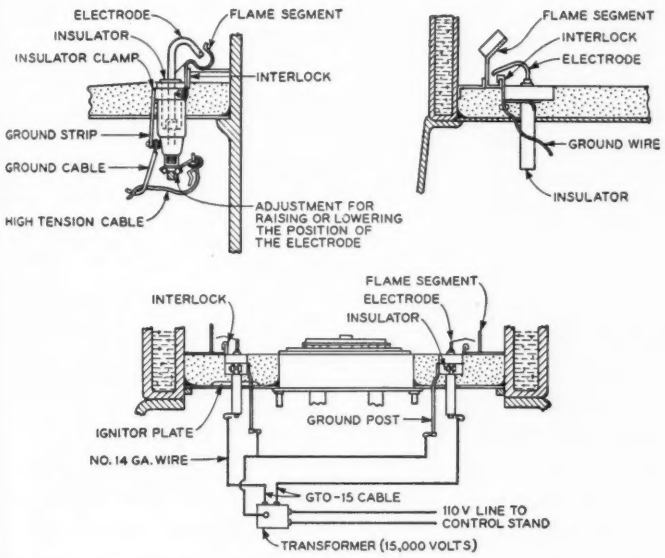


Fig. 4. *Typical wall flame burner igniters and dual ignitor installation.*

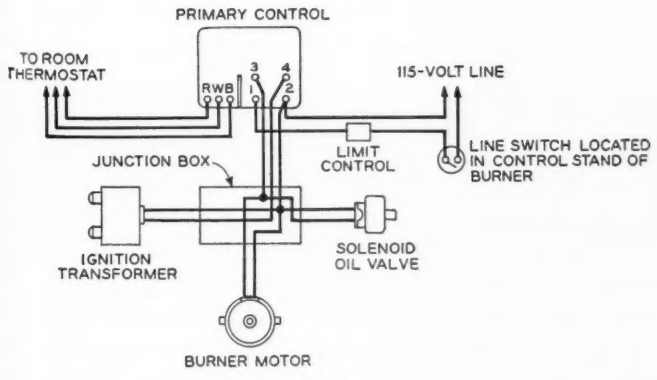


Fig. 5. *Wiring diagram for basic burner installation.*

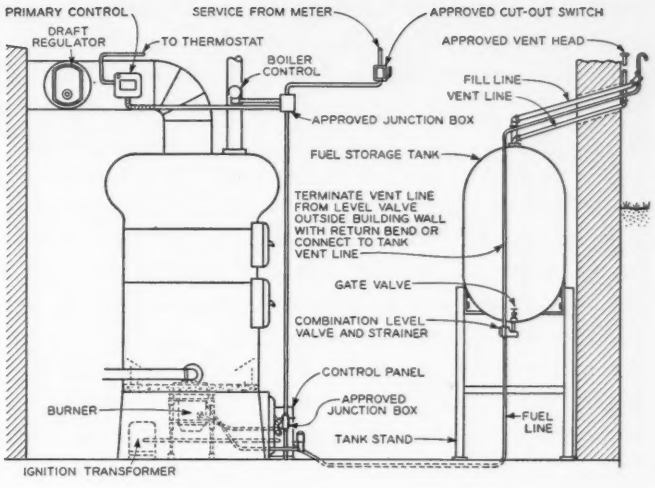


Fig. 6. *Typical wall flame installation.*

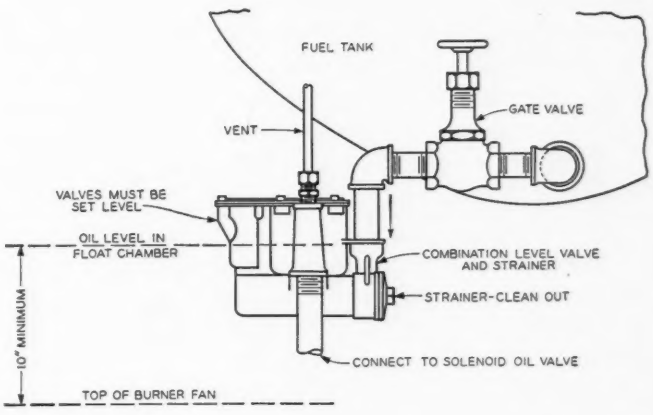


Fig. 6a. *Details of constant level valve installation.*

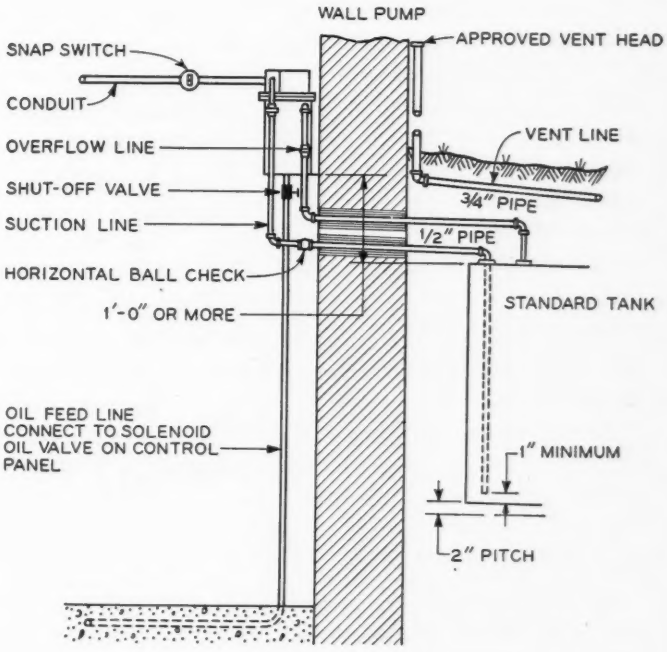


Fig. 6b. *Details of wall pump installation.*

floor. This is a gravity fed burner and unless a wall pump is provided, the tank must be above the burner. Flat tanks are the most popular for rotary installations.

It is necessary that there be a definite tie-in between the survey and installation, so that the information obtained by the survey will be passed on to the installation men. The installation crew is thereby enabled to start out with the required materials and with full knowledge as to every special condition to which a particular installation must conform.

There should be assigned to a job that number of men which experience has proven to be best for economically and systematically carrying out the work. It has been found that three men comprise the most advantageous size of crew for the average domestic installation using a 275 gallon tank installed in basement above ground. This size of crew should complete the average job of this class in from eight to ten hours.

The completion of the job with the correct personnel generally does not include firing and adjusting the burner, and testing the controls. This detail should be the responsibility of a high grade service man or inspector and it is seldom practicable for a large scale operation running several installation crews to carry a man of this calibre in each crew. In small organizations, however, it often happens that the man having the required knowledge and ability for firing the burner and testing the job is in charge of the installation and a member of the crew, and, in such a case, this man completes the job. The installation should not be formally turned in as complete until after a check the next day to determine that the adjustments made were correct and that they are holding.

The burner setting and hearth construction should advance in the following steps:

Assuming that the boiler and smoke pipe have been thoroughly cleaned and that the grate and shaker bars have been removed, the first step to be taken is to make the sheet metal hearth plate.

In laying out this hearth plate time and effort will be reduced if the plate and flame ring are laid out on the floor.

For all hearth sizes specified, the use of No. 24 gauge sheet metal is recommended. Fig. 1 illustrates two typical layouts for a rectangular and a round hearth plate. Always refer to the manual for special size boilers. Both in round and rectangular hearths the hole cut out for the burner is always in the center. The plate should be 1/8" less than the boiler diameter. The center hole should be cut so that the burner will also clear the plate by 1/8".

By an examination of Fig. 1 you will find the igniter cutouts for rectangular hearths are off center. They always are off center in the direction of rotation of the burner.

Assembling Flame Ring

The next step is the assembly or formation of the flame ring outside the boiler. The hearth plate may be used as a guide in determining the proper diameter of the flame ring. (See Fig. 2 for typical flame segments).

If the wallband is to be used—highly desirable in all installations—the following rules should be followed.

1. In water and steam boilers, the flame ring diameter should be determined with enough allowance to provide a 1/8" to 1/4" space between the band and the boiler wall. The reason for this spacing is to maintain a more constant temperature on the band. This is accomplished readily as the band will not touch the relatively cold boiler walls.

2. In gravity warm air furnaces, the flame ring diameter should be determined with enough allowance to provide at least 1/2" between the wallband and the furnace wall. The purpose of this spacing is to reduce the possibility of hot spots occurring on the furnace walls.

The distance between the wallband and the back of the flame ring should be in accordance with the manufacturers specifications as this constitutes the necessary combustion space required.

The next step is to insert the hearth plate in the boiler, through the ash pit door, and lift it into place on the grate lugs. There is less likelihood of the metal bending or buckling by this method. Fig. 1a illustrates one method of raising the hearth plate when the burner installation is to be made in a small round cast iron warm air furnace. In a good many cases you will find these furnaces are dimensioned by the widest part of the firepot, but taper in towards the grate so that at the grate surface the diameter is too small for the burner.

The installation may be made in most cases of this kind by raising the hearth plate until there is enough room to accept the burner. Generally this will only be about four inches, which will not cut out enough of the heating surface to affect the overall efficiency of the heating system. In a furnace that has a large enough ash pit, standard fire brick may be broken in half and used as piers to support the hearth plate. Strap iron supports have proved practical for installations as large as 24" in diameter.

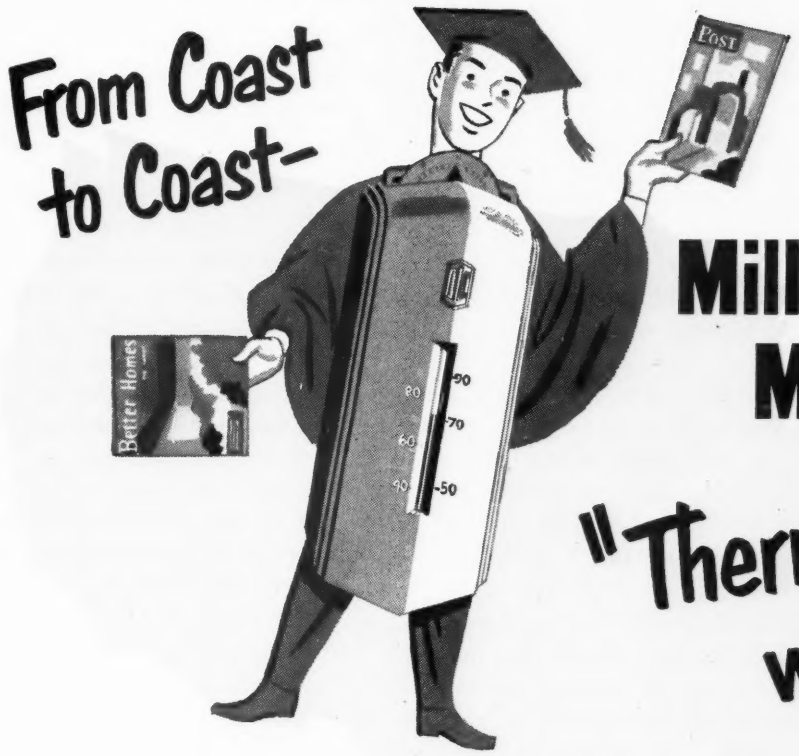
Before installing the burner in the boiler measure the distance from the floor of the boiler to the hearth plate and adjust the burner legs so that the hearth plate will rest on the burner collar flange made for the purpose of supporting the hearth and the edge of the plate rests firmly on the grate lugs. It may be necessary to drive small metal wedges between the ash pit base and first boiler section for added support. Place a piece of cardboard over the burner frame, or stuff the burner frame with rags so that none of the hearth cement can fall into the burner. Next, center the burner with a hearth gauge or rule, not by eye. Now level the burner in all directions with a spirit level placed across the finished top of the burner frame. Level with the adjusting legs of the burner.

One of the most important steps in laying a good hearth is sealing the hearth plate. The importance of sealing the plate cannot be stressed too strongly. The slightest air leak through the hearth will cause uneven flame and carbon at the point of leakage. If the leak is large, it will cause the flame to drop back into the flame ring and may cause it to burn out. A 1" putty knife is just about the best tool to use for sealing the hearth plate. Fig. 3 illustrates where to seal the hearth and how to level the burner.

The plate now is ready for the hearth cement. Two products that have been proven over a period of years to be suitable for this use are R & I hearth cement and J-M Firecrete. There are a few others on the market that are entirely satisfactory. Do not use fire clay for this purpose as it will crumble and spall away in a very short time. These

demand

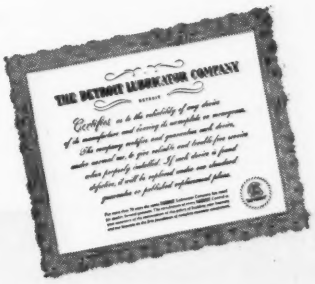
DETROIT CERTIFIED CONTROLS



Millions Have Now Met Detroit's "Thermostat with a Brain"!

INTRODUCING GREAT NEW PROFIT POSSIBILITIES FOR YOU!

Now is the time for you to take advantage of this great sales opportunity! National advertising by DETROIT has made millions of home owners and home builders the country over, *Timed Cycling* conscious! By selling the full line of DETROIT controls with the remarkable *Timed Cycling* Room Thermostat, you can give your customers the assurance of fuel economy and perfect heat control by the elimination of over and under heating! Moreover, DETROIT controls are the *only* ones certified for reliability, performance, and engineering excellence! So order your supply today—they will bring greater comfort to your customers and greater profits to you!



Look for this Certificate — only Authorized DETROIT *Wholesalers sell certified Controls.*

DETROIT

LUBRICATOR COMPANY

5900 TRUMBULL AVE., DETROIT 8, MICHIGAN

Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION

Canadian Representatives: RAILWAY & ENGINEERING SPECIALTIES, LTD.—Montreal, Toronto, Winnipeg

"DETROIT"

DETROIT HEATING AND REFRIGERATION CONTROLS • ENGINE SAFETY CONTROLS • FLOAT VALVES AND OIL BURNER EQUIPMENT • DETROIT EXPANSION VALVES AND REFRIGERATION ACCESSORIES • STATIONARY AND LOCOMOTIVE LUBRICATORS

Serving home and industry AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS • DETROIT LUBRICATOR • KEWANEE BOILERS • ROSS HEATER • TONAWANDA IRON

cements are furnished in 100 pound bags and the full contents should be dry mixed before using because the fine and coarse ingredients tend to separate in the bag. Add water and mix. Too stiff a mixture is not recommended as it will not have enough water content to result in a strong cement when dried. Make the mix so wet that it will not pack and hold its shape when squeezed in the hand. After the cement is placed on the hearth plate it must be leveled off.

It will be satisfactory to make a hearth gauge from a piece of wood after an installer has made many hearths, however a much better job will be accomplished if the hearth gauge furnished by the manufacturer of the burner being installed is used. This gauge is used to sweep the hearth surface to the proper level This gauge will give the proper level so that when the flame ring is placed on top of the hearth the oil strike will be correct.

Placing the Flame Ring

After the hearth is leveled off to a smooth surface with the gauge, install the flame ring that has been made to exact size, pass it through the fire door, and place it on the hearth cement. The ring should be placed concentrically around the hearth, using the spacers as a guide to keep the ring the same distance away from the boiler wall.

At this point make sure the flame ring is resting firmly on the hearth in such a manner that the possibility of an air leak between the ring and the hearth does not exist. An air leak at this point would cause a smoky fire behind the ring which would soon carbon the ring and cause the burner to fail.

After the ring has been placed on the hearth and spaced the same distance all around the boiler, remove a sufficient quantity of hearth cement where the igniter or igniters, as the case may be, will be placed. Insert the igniter through the hearth and smooth the cement around the igniter, being sure that none of the cement falls into the igniter porcelain as this may ultimately cause faulty ignition. Smooth out gaps or holes that may be around the igniter with a pointing trowel. Fig. 4 illustrates typical igniter installations.

Now place the flameflex or grill on the top of the flame ring. This grill will automatically position itself correctly above the hearth. Remove any cement that may have fallen into the oil groove of the flame ring.

The corners of rectangular hearths require the building of a backing wall. This also must be stainless steel as the use of any refractory will result in the burning out of the wallband and the flame ring. This backing wall should be 8" in height.

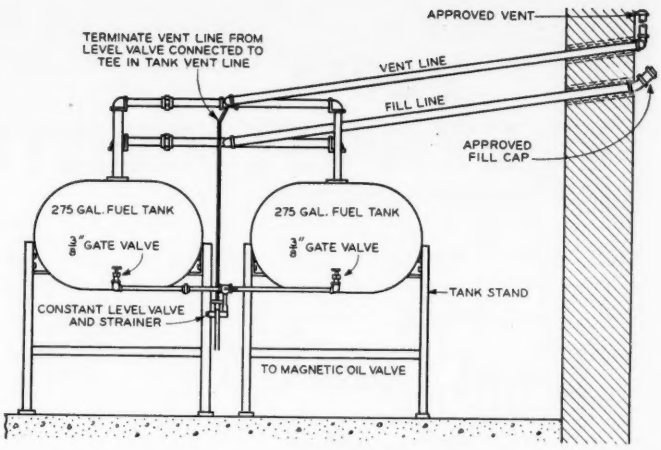


Fig. 7. *Connections for two inside fuel tanks.*

A bridge wall must be constructed at the rear of all hearths that are not laid out the full length of the boiler. The bridge wall should extend above the grill from 8 to 10 inches. This also must be constructed of stainless steel.

The wallband should be part of the hearth, especially when burning catalytically cracked fuels. Where the ends of the wallband overlap they may be clamped together or held in place by the use of a simple lock. Lap the band in the same direction as the rotation of the burner so that an air disturbance will not be created if the ends are not clamped too tightly.

At this writing we will not go into too much detail on wiring and piping. Fig. 5 illustrates the basic wiring diagram for the average burner installation.

Piping to the Tank

The piping of the tank differs from other burners in that the tank must be mounted sufficiently high above the floor so that the oil level line on the constant level valve will be not less than 10 inches above the outlet of the fuel tube on the burner, and a height greater than this is desirable. Fig. 6 illustrates a typical complete wallflame installation with a 275 gallon tank mounted on an approved steel stand. In place of the steel stand, 1¼" pipe legs may be used where the tank is equipped with flanges for this purpose.

Fig. 6a shows the detail of the piping to the constant level valve. Fig. 6b shows the detail of the piping to a wall pump when an underground tank is used. Where a wall pump is used it is necessary to use a constant level valve. You will note in Fig. 6a that a gate valve is specified ahead of the constant level. If a globe valve is used in place of the gate valve, mount the globe valve so the stem is in a horizontal position. This is done because the inner construction of a globe valve is such that mounted in a vertical position it will develop an air lock which would cause the rate of oil flow to vary. The piping between the constant level valve and the burner fuel tube must be free from bends that would prevent the oil line from venting back through the constant level valve vent.

In locations where the code or requirement calls for the vent from the constant level valve to be run outside as well as the vent from the tank, it is very simple to run the vent from the constant level valve to a tee in the vent line from the tank.

Fig. 7 illustrates the recommended connections where two inside 275 gallon tanks are used.

Much detail has been devoted here to the various steps of installation, but attention to detail makes for a good trouble-free job that will give maximum satisfaction. To many dealers who have had no experience in the installation of wallflame rotary burners, the installation steps as outlined above will seem unusually long and tedious.

Actually, when one becomes experienced in this type of work wallflame burner installations will take very little longer than pressure burner jobs.

In the following articles of this series testing and servicing will be explained and discussed.

THE DEALER WHO KNOWS
EASIER TO SELL
For the quality buyer, for the thrifty buyer... dealers the country over know from their own experience that Silent Glow's Invader offers more than any other burner regardless of price. Lower first cost, lower service cost, lower fuel cost is the Silent Glow selling story... currently appearing in four mass circulation magazines to help you make volume sales.
POST
House Beautiful
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When it comes to servicing, Invader's one-piece time-saver top and automatic alignment of parts simplify the job, mean less trouble. And, once serviced, Invader stays serviced.
Those Who Know Choose
SILENT GLOW OIL BURNERS
THE DEALER WHO KNOWS
EASIER TO BUY
With 48-hour delivery from Hartford or Chicago, you can get Invaders where you want them, when you want them. Priced for easy buying, Invader carries a money-back guarantee, backed by an AA1 rating and the world-wide Silent Glow reputation.
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850 Windsor St., Hartford 5, Conn. • 1500 So. Western Ave., Chicago 8, Illinois
Send us the complete facts about Silent Glow Oil Burners including prices and your money-back guarantee.
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Company
Street
City
State
128L50

$1000 *for* USEFUL IDEAS

IF *YOU ARE* •

an oilburner salesman
a burner service man
a fueloil truck driver
an office employee

YOU HAVE A CHANCE TO WIN ONE OF 12 PRIZES IN THIS CONTEST

•

THESE ARE THE RULES • CLOSES AUG. 31, 1950

JUST about every original, useful idea submitted will win some kind of award. There will be four First Prizes of $125 for the most useful idea submitted by each of the four kinds of employees listed. Then there will be four second prizes of $75 each and four third prizes of $50 each. All the winning ideas will be published in FUELOIL & OIL HEAT, identified with the winner's name. BUT, in addition to the 12 prize awards determined by the judges, there will be other papers that have worthwhile suggestions that would help the oilheating industry. The editor will select a number of these and when they appear in the magazine the author will be paid at the rate of 3c a word.

1. The idea that you think would be useful to other oilheating men may be one of your own experiences or anything unique that you have learned.
2. To be eligible you must be an employee, not the boss, and you must be working in some part of the oilheating industry.
3. Write your idea in enough detail to make it clear to every one in any number of words up to 1,000. If a picture or a rough sketch or drawing would help make your points clear, include them. DON'T WORRY about your ability to write well. It will be the idea itself that will get attention if it is useful.
4. Your suggestion should be typewritten if possible, on one side of the sheets. Do not put your name on any of the sheets, as the judges must not know who sent in the idea. All entries will simply be numbered. So write your name and address on a separate slip of paper and clip it to your story. Thus winners can later be identified by the editor after the judges announce their choices. Entrants may send in as many suggestions as they want to, but they must be written separately.
5. State whether your entry is sent by an oilburner salesman, burner service man, fueloil truck driver or office employee, since the prizes will be awarded to those four separate classifications. Office employees, include dispatchers, degree-day operators, credit and collection workers, and others.
6. The Contest closes August 31, 1950, and winners will be announced in the October issue of FUELOIL & OIL HEAT. All opinions of the judges will be final, and no entries will be returned to the senders.

THE JUDGES

The three judges are men of responsibility in the oilheating industry today . . . men who started at the bottom and came up in their organizations. They have all had experience in about every phase of oilheating dealers organizations and know a good suggestion when they see it. The judges are:

Tom Carson, manager oilheating division, Sherwood Bros. Inc., Baltimore, Md.
George Clement, general manager, Modern Heat & Fuel Co., Philadelphia, Pa.
Herbert Spade, manager oilheating division, E. Robison, Inc., Hartsdale, N. Y.

Send all entries to Editor, FUELOIL & OIL HEAT,
232 Madison Ave., New York 16, N. Y.

TM *Tested and Approved*

300,000 TM thermostats now in use—many for three heating seasons—have demonstrated the comfort advantages of the Honeywell TM principle. Home owners are enjoying a new standard of heating comfort —made possible by Honeywell scientific research.

TM *Meters the Heat*

Controlled frequency of burner operation provides an even flow of heat under all conditions. Thermostat Magic means more than thermostat accuracy—it means maximum heating comfort and efficiency—at no increase in heating cost.

TM *Thermostat Magic means:*

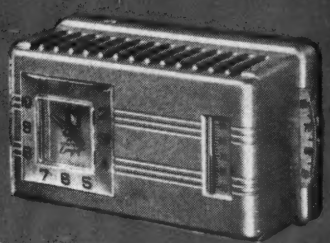
No More Waiting for Heat
No More Chilly Floors
No More Overheating
No More Fuel Used—instead
More Comfort For Your Heating Dollar

Magic!

TM keeps the heat coming in regulated portions

TM furnishes the required heat by properly regulating the length of burner operations in accordance with outside weather conditions—longer in cold and shorter in mild weather. Comfort always!

Long and irregular burner operations permit up and down temperatures—allow rooms to get too hot or too cold for comfort. The varying temperatures cause sensations of drafts and chills. Discomfort!



TM *Comfort Chronotherm* *

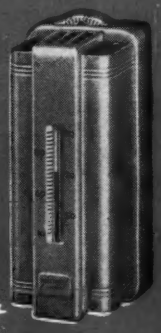
The well-known electric clock thermostat—automatically provides lowered night temperatures and morning pick-up. NOW better than ever with the Thermostat Magic of TM.

**Available in a few weeks.*

TM *Comfort Time-O-Stat*

For lowered night temperatures. Set the dial for the morning pick-up time you select—wake up in a comfortably warm house. The Time-O-Stat now assures pin-point control through the Thermostat Magic of TM.

TM *Principle provides Better Heating-Always*



TM *Comfort Acratherm*

The finest thermostat of its type in the world. Featuring the easy-to-read dial adjustment, precision control—and NOW, Thermostat Magic with Honeywell TM.

MINNEAPOLIS
Honeywell
FIRST IN CONTROLS

* **TM *means Thermostat Magic***

tion machines. Built into the long counter are cabinet sections holding upholstered folding chairs, 63 of them, enough to accommodate nearly all gatherings. OHI of New England will hold one of its series of school classes here next season.

The second photograph is another view of the counter where Joe Hardy fills an order for a couple of service men. The openings behind the counter lead to stacks of metal bins holding supplies.

The third picture is back in the supply room, with a rather fuzzy out-of-focus shot of Kimball, the president and owner of the company.

The building exterior, shown in the bottom picture, omits the loading platform and truck yard at the left. With the land, the new building cost $90,000 exclusive of furnishings. There are 9,600 sq. ft. of floor space exclusive of boiler room and platforms.

Back in 1933, Kimball was a service man and noticed how little interest the traditional plumbing and heating jobbers took in oilburner supplies, so he started this new type of business working from his own home that year. He now covers the whole area north of Boston to the Canadian border, traveling three men.

Entrance Lobby A Meeting Room

WHEN E. L. KIMBALL CO. erected its new building in Malden, Mass., for marketing oilheating supplies, one of the principal features in the design was a broad, attractive entrance lobby between the door and the selling counter to be used as a meeting room for oilburner groups, special classes of any sort and manufacturers' dealer sessions.

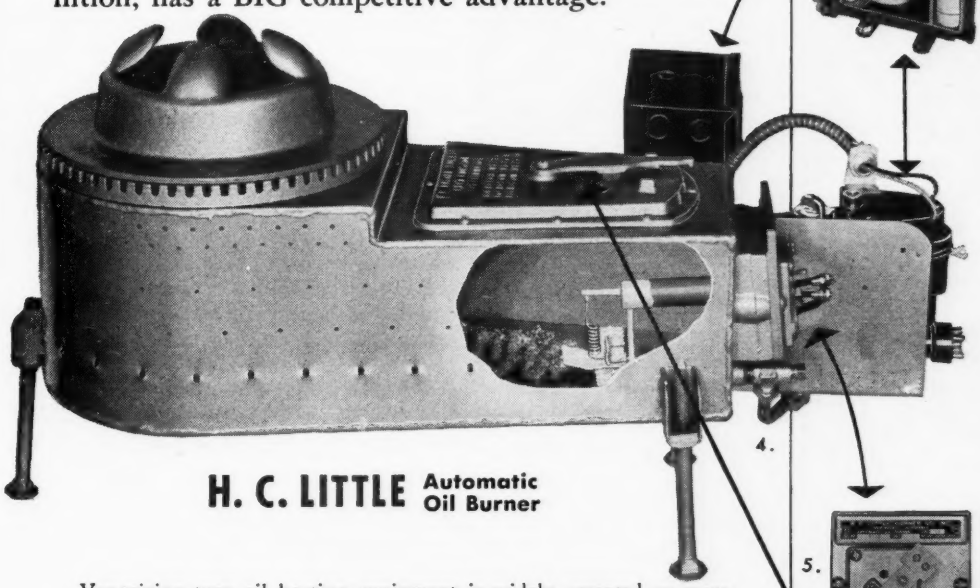
Shown in the top photograph, this lobby is large enough for 75 or 80 men to be accommodated comfortably, and at the first meeting after the new building was opened the attendance was 153.

Notice at the end of the room a large screen, of the beaded type, pulls down from an overhead case, and in the floor are set flush electric outlets for projec-

Here's Why *H. C. Little* Means Steady Volume, High Net Profit

Steady volume, minimum service and high net profit are enjoyed by H. C. Little dealers. Public preference for H. C. Little FULLY AUTOMATIC operation with NO PILOT LIGHT clinches sale after sale.

Look at the simple controls... follow the operation cycle... see for yourself why the H. C. Little oil burner, with automatic *self lighting* electric ignition, has a BIG competitive advantage.



H. C. LITTLE Automatic Oil Burner

Vaporizing type oil heating equipment is widely accepted as most practical for heating the typical home. Of all vaporizing oil heating equipment, H. C. Little is the only complete line with these three unique features:

1. Automatic self lighting electric ignition—NO PILOT LIGHT.
2. Catalytic heat control that gives improved burner performance and lower fuel bills.
3. The oil burner designed on the Progressive Low Temperature Carburetion principle, to eliminate high temperature "cracking".

By playing up these features and using them in competitive selling, H. C. Little dealers maintain steady volume at fair prices and insure high net profit.

Address inquiries regarding dealerships to Dept. 6.

H. C. Little Burner Company **SAN RAFAEL, CALIF.**

Or contact the Factory Representative nearest you:

Baltimore, Md.
Belmont, Mass.
Boise, Idaho
Chicago, Ill.
Columbus, Ga.
Detroit Lakes, Minn.
Fayetteville, No. Car.
Kansas City, Mo.
Larned, Kansas
Newark, N. J.
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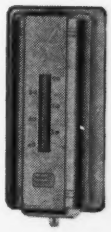
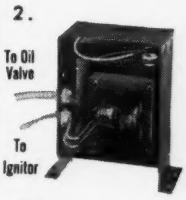
POWERFUL SALES BUILDING STORY TOLD IN SIMPLE CONTROL & OPERATION CYCLE



1.

ROOM THERMOSTAT, actuated by temperature drop, makes electric circuit through...

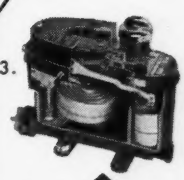


2.

AUTO-TRANSFORMER, which supplies proper voltage to (a) open the automatic oil valve and (b) heat the electric ignitor.

3.

HEAT MOTOR on top of oil valve opens slowly, allowing oil to flow to the burner.



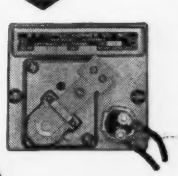
4.

Oil enters burner at relatively cool end and thus is prevented from high temperature "cracking". The soundness of this H. C. Little "Progressive Low Temperature Carburetion" principle has been demonstrated in more than 160,000 installations over a 22 year period.

5.

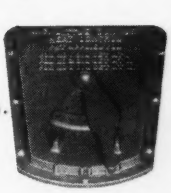
3-VOLT ELECTRIC IGNITOR in bolted-on burner door becomes hot and ignites the oil.

THERMATIC DOOR automatically admits additional air to facilitate quick, easy starting WITHOUT mechanical air induction.



6.

CATALYTIC HEAT CONTROL regulates supply of air through roof of burner as flame increases after starting. Complete carbon-free combustion with catalytic oil is achieved and flame burns above the top burner ring inside combustion chamber.



7.

When required room temperature is reached, the thermostat contact breaks and THE BURNER IS COMPLETELY SHUT OFF. THERE IS NO PILOT LIGHT OR LOW FIRE STAGE. This is true, fully automatic operation, a big competitive advantage!

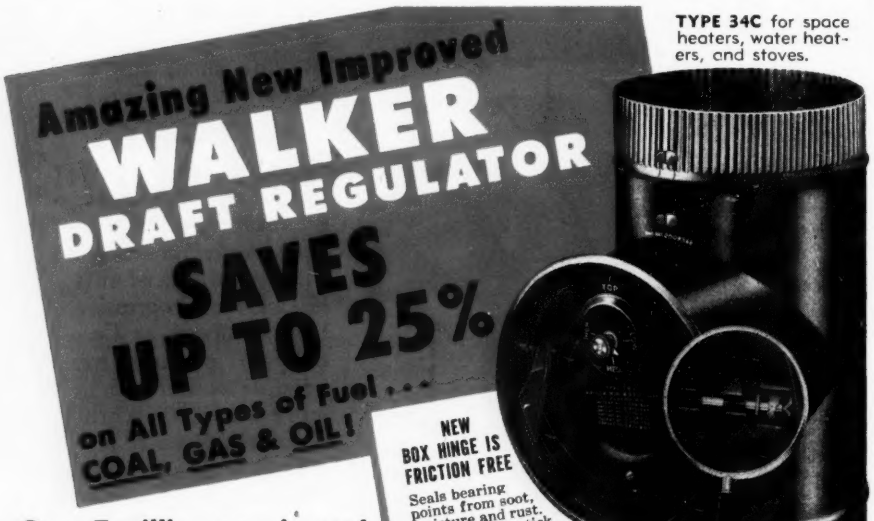
April Construction Above Previous Records

CONSTRUCTION ACTIVITY during April, led by private homebuilding, exceeded all previous records for the month, according to the Construction Div., U. S. Commerce Dept. and the U. S. Dept. of Labor's Bureau of Labor Statistics.

Total value of new construction during the month was estimated at $1.7 billion, 10% better than March and 24% more than April 1949. Total for the first four months of the year is $6.1 billion, 20% more than the same period last year. New private construction during April advanced 9% to an estimated total of $1,254, which represented a 27% increase over April last year; public expenditures for new construction amounted to $443 million last month, 15% above March and 16% better than last year.

Work valued at $720 million was done during April on the record number of new homes placed under construction during the past few months. After a seasonal rise of 11% over the March level, value of new private residential construction in April exceeded a year ago by 62% and for the first four months of the year was 50% ahead of 1949.

The above activity followed reports that March 1950 proved to be the best homebuilding month in history, with builders starting 110,000 new nonfarm dwelling units during the month, an increase of 38% over February and 50% over March 1949. January, February and March housing starts totalled 270,000, greater by 59% than the first quarter volume last year. Final 1949 reports indicated a total of 1,025,100 new dwelling units started. Of that total 4% of new housing was publicly owned, compared with 2% in 1948.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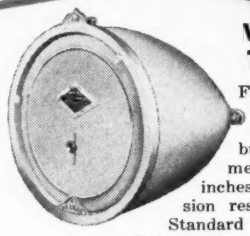
WALKER
DRAFT REGULATOR
SAVES
UP TO 25%
on All Types of Fuel . . .
COAL, GAS & OIL!
NEW
BOX HINGE IS
FRICTION FREE
Seals bearing points from soot, moisture and rust. Won't clog or stick. Maintains positive draft values exactly as adjusted.
TYPE 34C for space heaters, water heaters, and stoves.

Over 7 million now in use!

Yes, now you can save up to one-fourth on fuel cost and get *more* efficient heating performance. The new, improved, automatic Walker Draft Regulator assures maximum fuel combustion under *all* stack conditions. This means *even* heating and prevents unnecessary heat loss up the chimney. It's quickly installed, easily adjusted, and low in cost.

Manufacturers can improve the performance of their heating equipment by specifying Walker Controls.

There's a Walker Regulator to fill every need, too . . . from a small stove to a giant industrial boiler. Each is factory tested . . . each guaranteed to give positive automatic action.



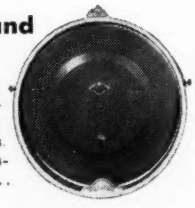
WALKER TYPE 34

For any type of domestic furnace in stores, small office buildings and apartments. Sizes 6-20 inches. Rust and corrosion resistant. Listed as Standard by Underwriter's Laboratories. Shown with installation collar.

WALKER MFG. & SALES CORP.
St. Joseph, Mo.

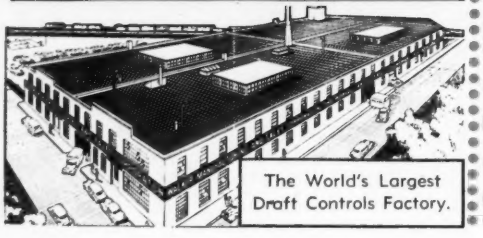
World's largest factory producing Automatic Draft Regulators exclusively . . . not competing either directly or indirectly with producers of any type heating equipment.

COMMERCIAL and INDUSTRIAL



(Ball Bearing) Built to meet toughest conditions. Sizes 16-36 inches. Ideal for power plants, schools, garages, industrial plants, laundries . . . Thousands in use!

WALKER Automatic DRAFT REGULATORS



The World's Largest Draft Controls Factory.

Walker Manufacturing & Sales Corp.
17th & Penn St., Dept. 200
St. Joseph, Mo.

Please send me more information on the full line of Walker Automatic Draft Regulators. No obligation, of course!

Name_____

Firm_____

Address_____

City_____ St._____

Esso Offers Home Owners "Fill-Up" Price Protection

A RETURN to its prewar policy of offering home owners price protection until September 30 in order to encourage summer fill-ups has been announced by Esso Standard Oil Co. The change, it is reported, will not include price protection for resellers or other buyers.

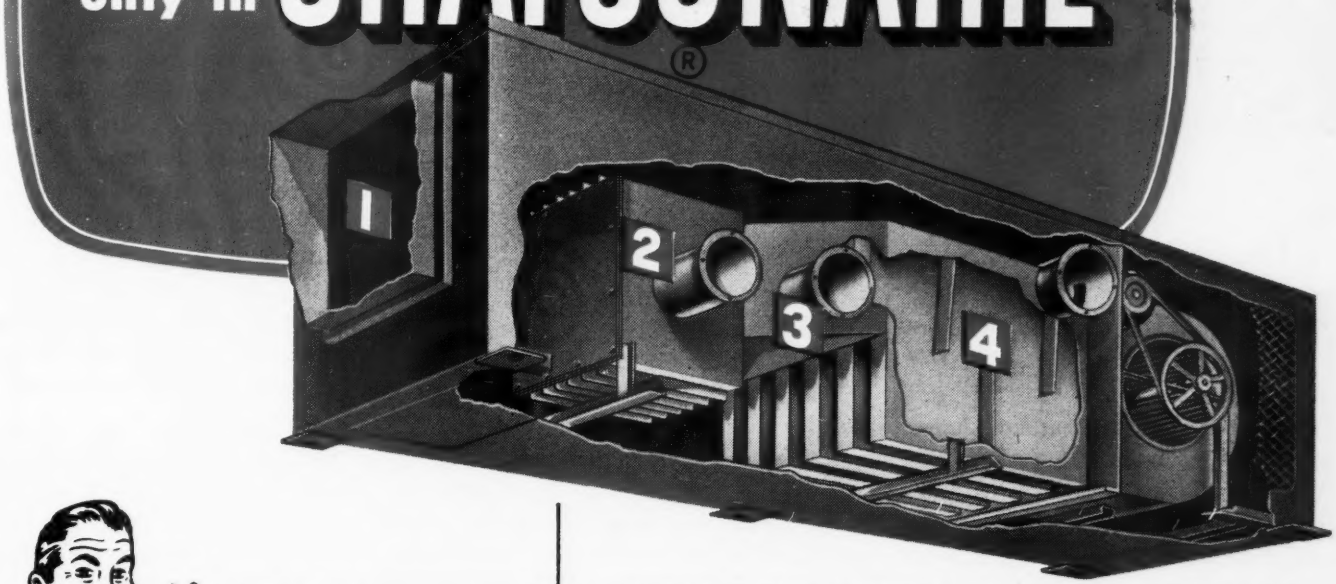
Under the policy, home consumers who fill up during the summer months will be billed by Esso on October 1 at the company's lowest posted price during the period until September 30. New customers are to receive the benefit of the lowest price prevailing between the date of delivery and September 30. The policy will be in effect throughout Esso's marketing territory.

Hold Dealer Responsible For Grade of Oil Delivered

CUSTOMERS of an oil dealer have a right to expect him to deliver oil that can be safely used in their equipment, according to a May 8 ruling of the New Jersey State Supreme Court, reported by the New York *Herald-Tribune*.

The ruling permits the Flexmir Co., Newark, to bring damage suit against Lindeman & Co., Newark oil dealer. The Flexmir Co. charges that its building was damaged by an explosion allegedly the result of the delivery of the improper grade of oil.

FOUR ESSENTIAL FEATURES found only in SHAFCONAIRE*



SHAFCONAIRE! It's the *original* overhead furnace known for years as SHAFCO. And it's the only furnace of its type that has been time-tested, proved-in-use over 12 long years of actual field operation. That's of prime importance to you, too. Because, regardless of a manufacturer's claims and written guarantees, time . . . and time alone . . . offers the only positive proof of the merits of any product. It's your one best assurance of quality, performance, and dependability.

So take a good look at SHAFCONAIRE OVER-HEAD HEATERS. Look under the casing . . . at the all-important inside furnace construction details. See for yourself the exclusive, essential, patented features that have made SHAFCONAIRE the leader of its field, the outstanding quality "buy" on the market today!

1 BUILT-IN PLENUM CHAMBER—This exclusive patented SHAFCONAIRE feature saves you plenty of time and trouble in making installations. It's engineered and sized to handle capacity of the furnace. Assures uniformly heated warm air output, improves operating efficiency, reduces installation costs. Eliminates necessity of on-the-job sizing and extra sheet metal work. Ducts may be quickly, easily tapped off from end, top, and both sides to meet installation requirements.

2 HEAVY DUTY FURNACE—Use of heavy gauge welded boiler plate construction assures long-life, trouble-free performance. No strains, no warping, no buckling. No burn-outs common to stamped steel fabrication.

3 INTERMEDIATE HEAT-TRAVEL SECTION—Patented intermediate chamber between refractory-line firebox and heavy gauge heat exchangers serves to spread flame, permit expansion of hot gases. Effectively prevents impingement of flame on metal, increases life and overall operating efficiency of the furnace.

4 EFFICIENCY ENGINEERED HEAT EXCHANGER—Alternately spaced baffle plates in each heat exchanger section effectively retards flow of hot gases toward stack connection, permits maximum transfer of heat through the exchanger.

OVERHEAD HEATERS, INC.

(Formerly SHAFCO Distributing Corporation)

1354 BOOK BUILDING • DETROIT 26, MICHIGAN

OVERHEAD HEATERS, INC.
1354 Book Building • Detroit 26, Michigan

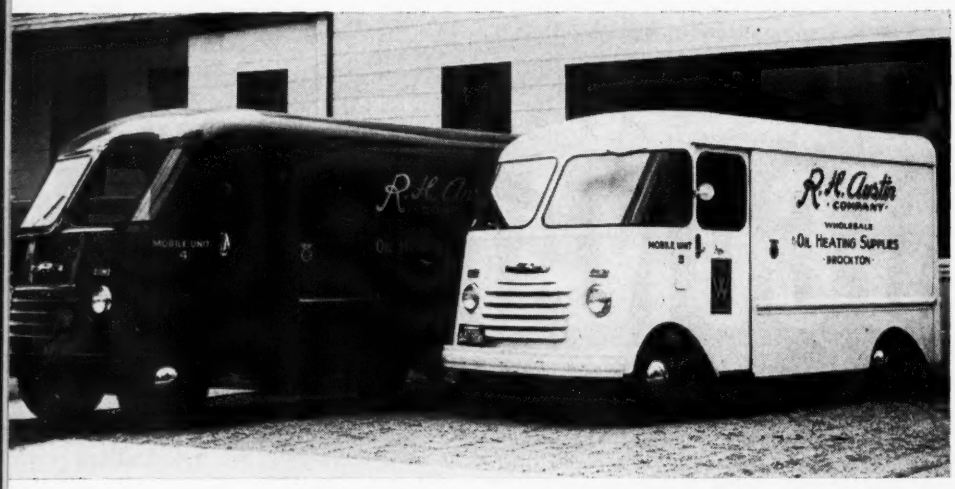
Please send me complete information and price lists on your SHAFCONAIRE (formerly SHAFCO) OverHead Heaters.

*Name*_____

*Address*_____

*City*_____ *Zone*____ *State*_____

* SHAFCONAIRE, the original overhead furnace formerly known as SHAFCO. Designed, engineered, and built exclusively for commercial and industrial applications. Models from 100,000 to 405,000 B.T.U. Backed by over 12 years actual operation in the field. Send in coupon today for complete details and price information.



Peddling Oilburner Supplies

THE CAPE COD SECTION of Massachusetts has had peddlers of one form or another for more than 300 years. They were about the earliest kind of merchants in that historic region, going back to Pilgrim days. Now comes the peddler of oilburner parts and supplies, not with a pack on his back, not with a one horse fly-trap, but with an up to the minute Chevrolet truck chassis and special body designed for the purpose.

Of course they are not called peddler's trucks; they're mobile units, as the photographs show.

This novel marketing facility has been developed by R. H. Austin Co., of Brockton, Mass. Brockton is the principal large town before you enter the Cape country, going down from Boston. The company sells its wares all the way out to Provincetown at the tip, 120 miles away.

Including fittings, each truck carries 385 kinds of items, and can take care of almost any need a dealer may have at the moment, in the way of smaller equipment. The truck does not carry boilers or furnaces, naturally, and it carries only one oilburner, primarily for a sample but it can be sold in an emergency. The truck body is aluminum, made by Grumman Aircraft, Hicksville, N. Y., fitted with revolving type and conventional bins.

The principal range of products carried are accessories and supplies, such as burner pumps, transformers, motors, nozzles, filters, controls, gauges, chemicals, refractory cements, black iron fittings, brass compression and flare fittings, copper tubing, humidifiers, wrenches and other pipe tools, and in general a full line of less bulky items.

The driver is of course the salesman also. He calls on 90% of his accounts each week on a definite day and averages 16 such calls a day. The dealer knows the day he's coming and accumulates his needs through the week. If he has to be out on a job when the salesman is due, he writes his order on a wall pad provided by Austin for the purpose. Just about half of all the salesman's business is transacted directly from the stock in the truck. The other half, embracing oilburners, oil tanks, boilers, fire brick and other big bulky items, is delivered in the company's larger ordinary type trucks, which make the rounds of all customers twice a week.

The mobile unit system would be handicapped if many of the dealers had no credit standing and it was necessary to make C.O.D. collections. As a result the system is almost exclusively limited to charge account buyers.

To better understand the advantages of having these mobile units, a particular driver was visualized and described by R. M. Easton, the company's heating engineer and second man. This driver is John M. Silver, who lives down on the Cape and only comes in to headquarters once a week.

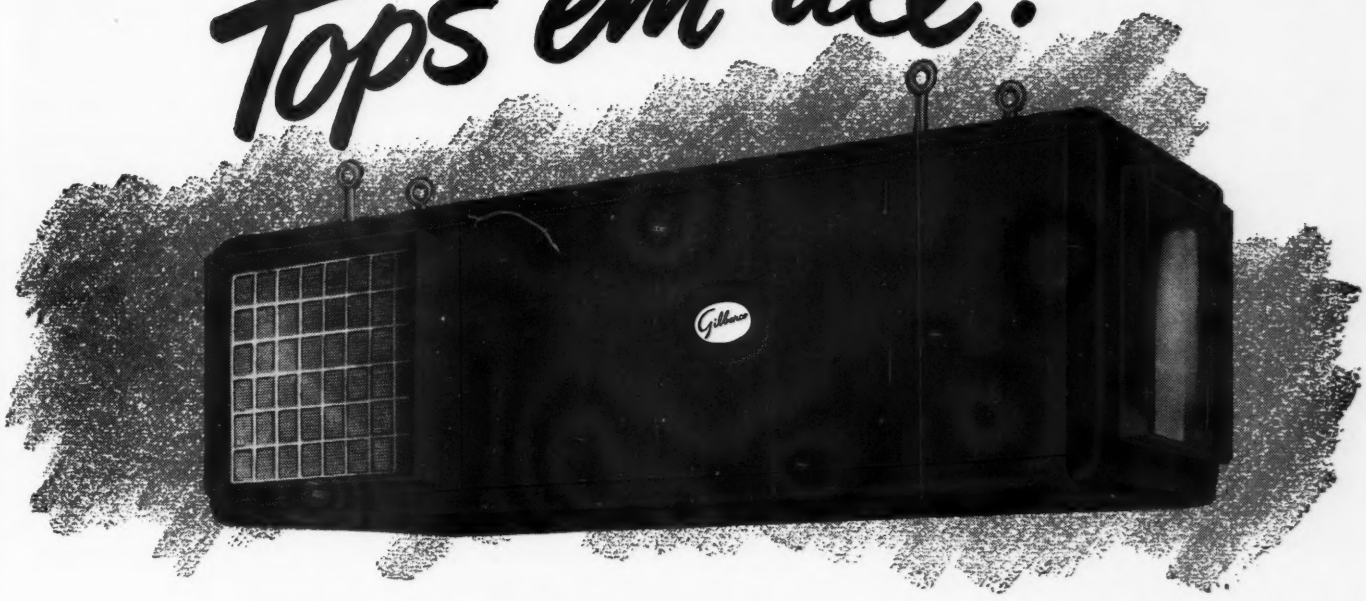
Silver lives at Hyannis, a good midpoint, and parks the truck in his own garage each night. If a dealer needs something in a hurry he knows that he can always run into Hyannis in the evening or early morning and get it from Silver right off the truck . . . assuming of course that he can't wait for the regular weekly call. Austin points out that this is about as effective as maintaining a branch warehouse 60 miles from home base, and much cheaper.

Thursday is the day that Silver drives into Brockton to reload, also making some dealer stops on the way. He fills his bins and also loads up some special orders of the heavier stuff to deliver on his first day back.

This whole system provides maximum flexibility. It could only succeed in the hands of management as imaginative and versatile as Austin. It took a lot of courage and expense to jump in with both feet as he did, but as proof that it has worked for him we have this simple statement: He started his supply business only three years ago; last year he billed over $375,000; then deciding he wanted to go it alone he bought out his partner, giving him 12 times his original investment.

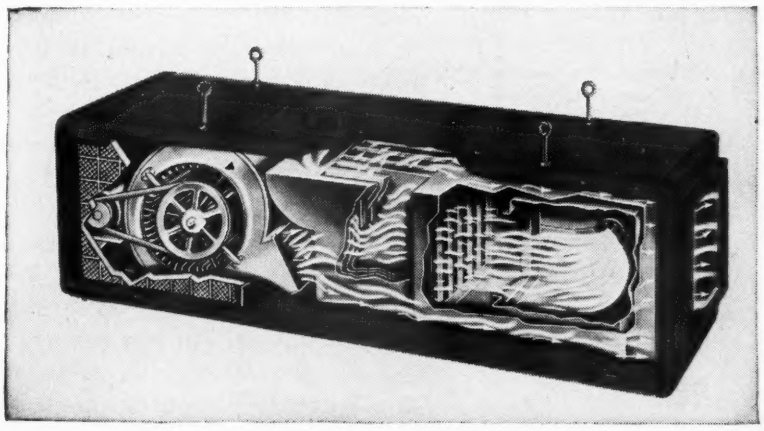
Robert Austin *poses beside one of his mobile units.*

Tops 'em all!



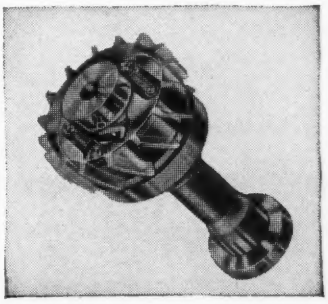
THE GILBARCO SUSPENDED FURNACE

saves space, fuel and operating costs for added sales appeal!



COUNTERFLOW HEAT TRANSFER — a fuel-saving feature of the Gilbarco suspended unit. Hot combustion gases move in opposite direction to flow of heated air, giving maximum transfer of heat through all parts of furnace.

The unit hangs from ceiling with four steel eye-bolt hangers. Completely out of the way for 100% use of valuable floor space. Comes in 100,000, 150,000 and 200,000 BTU per hour sizes.



FAMOUS ECONOMY CLUTCH — All Gilbarco Suspended Unit Oil Burners are equipped with this exclusive fuel-saving feature that reduces heat-wasting soot, increases efficiency.

Customers want the Gilbarco Oil-Fired Suspended Furnace because of the tremendous savings it affords in space, fuel and operating costs.

Dealers acclaim the quick-and-easy low-cost installation of this outstanding suspended unit. You merely install oil piping and carry wiring to the power outlet and thermostat. The furnace is completely assembled at the factory, with burner already mounted.

Ideal for service stations, garages, stores, homes! It's the new, economical answer to those tough heating and space problems.

A few valuable franchises are now available west of the Appalachians. Write us today and get all the facts on this profitable, fast-selling line.

Gilbarco

THE OIL BURNER WITH THE ECONOMY CLUTCH

Gilbert & Barker Manufacturing Company
West Springfield, Mass.—Toronto, Canada

CONVERSION AND REPLACEMENT BURNERS
BOILER BURNER UNITS
WARM AIR CONDITIONERS • INDUSTRIAL BURNERS

fuel oil & oil heat

Blazer Criticizes Pricing At Empire State Meeting

AT THE MAY 15 and 16 meeting of the Empire State Petroleum Assn., held at New York's Hotel Roosevelt, Paul Blazer, the featured speaker, outlined some of the weaknesses he saw in the oil industry's pricing practices, and in general mentioned other practices that bring public distrust of the industry's motives. Blazer is board chairman of Ashland Oil & Refining, Ashland, Ky.

Some significant paragraphs from his paper follow:

"Seriously, I think there is too much uniformity of pricing in the oil industry —a uniformity which results not from collusion but from a foolish competitive fear that if another company is permitted to have a lower price it will take all of our customers. Uniformity of pricing, regardless of the reason, appears to be the cause of much of the suspicion on the part of the Anti-Trust Division. Those basic industries where competition is exceedingly keen, resulting in identical prices, have been the targets of the Department of Justice. It would be better for us to have greater variation in prices, even if we lose a few customers to our competitors, than to continue to risk governmental prosecution and possibly lose the right to compete as a free enterprise industry. We in our industry know that the tendency toward uniform prices is not because of collusion nor lack of competition, but because of too much competition.

"A few months ago I addressed a meeting of the Indiana Petroleum Marketers Association at Indianapolis. They were having an old-fashioned local gasoline price war, but I observed that the stations of one of the best known so-called 'price cutters' was maintaining its prices at a higher level than the major brands. The stations in question appeared to be doing their usual volume of business and later I was told by the owner that although the price war lasted for many weeks they maintained their volume of business in spite of the lower prices of their larger competitors.

"I think the oil industry makes a mistake in thinking disparagingly of so-called price-cutters who try to undersell the market. Within reasonable limits, they are good for the industry. We shouldn't 'look down our noses' at them. I suspect they are our best protection against governmental investigation. They tend to keep our prices down and force us to be more efficient. Besides the most ardent price-cutter today may be a most respected member of the industry tomorrow. I am reminded of copies of correspondence, I once saw, which was exchanged possibly 75 years ago between John D. Rockefeller and the Cincinnati Oil Works. Mr. Rockefeller had asked Cincinnati Oil Works to become the agent for Standard Oil products in Cincinnati. The owner wrote back and said he was unwilling to take the agency because he had heard that Standard Oil was a price-cutter.

(*Continued on page* 84)

CHECK YOUR Eddington NEEDS HERE

- FILTERS
- NOZZLES
- VALVES
- STABILIZERS AIR-CONES
- STRAINERS
- ADAPTORS
- INSPECTION MIRRORS
- SERVICEMAN'S NOZZLE KITS

Complete information yours for the asking.

"Sure I use Eddington FILTERS

Why wouldn't I—they save my time in servicing and they do a better job for the customer."

GREATER FILTER AREA means longer cartridge life

That means fewer call backs, therefore greater customer satisfaction. EDDINGTON oil filters are light weight, sturdily built. Cartridges can be replaced without breaking the oil line. Interchangeable with other makes.

Stock up today or write for literature

EDDINGTON METAL SPECIALTY COMPANY
1050 Czarnecki Street, Eddington, Pa.

Coasting Hub"

SOLVES THE "AFTER-FIRE" PROBLEM!

Maintains air supply until fire burns out clean!

YOU'VE been *looking* for it . . . *hoping* for it . . . and now, at last, its *here!* The engineer who discovered it knew exactly what you wanted, and went right to the heart of the problem! And now, *at negligible cost,* a simple device solves a perplexing problem intensified by catalytic oils!

Like many great inventions, Torrington's New *Free Wheeling* AIROTOR is as simple as A-B-C:— When pump and motor stop, *"The Fan with the Coasting Hub"* continues to supply air until the oil *burns itself out clean!* No more soot, smoke or shudder — just *clean, quiet shutdowns!*

Gives clean stops without soot, smoke or shudder!

We think you'll be quick to agree that Torrington's New *Free Wheeling* AIROTOR is a great improvement — and a long-needed one — for pressure atomizing burners. And you'll quickly see the tremendous sales possibilities for you in this new development — equally practical for new equipment or to modernize burners already installed!

Reduces fouling of electrodes!

Here's an advantage you can *advertise!* Plan now to ring up extra profits by promoting this great new sales feature!

The TORRINGTON MANUFACTURING COMPANY
TORRINGTON, CONNECTICUT

Solves the "after-fire" problem at negligible cost!

Furnished to drive Guardian or Lovejoy couplings!

Fits any standard shaft extension!

Goes anywhere a standard wheel is used!

Blazer Criticizes Pricing

(*Continued from page 80*)

"Although to me there appears to be no need for such uniformity of pricing and uniformity of quality as exists in the oil industry, I don't mean to imply that price cutting is a virtue, unless supported by low costs and appropriate financial strength. Too often the lowest prices are offered by small outfits who can least afford them; by people who start trouble and then complain to a governmental agency when they begin to be hurt by competitive conditions to which they may have been the principal contributors. Moral—'don't start something you can't finish.'

"We can never get away from the present substantial uniformity of pricing at the tank-wagon level so long as every sales manager refuses to let any other strong company undersell him. Under present conditions it takes the action of only one important marketer to depress the market to an unprofitable level, a level which causes the public to think that the normal price must have been too high. To restore markets to reasonable levels, some degree of cooperation is required and competitors may be tempted to have conversations which might be justified morally but which wouldn't stand the scrutiny of the Anti-Trust Division.

"I have talked considerably concerning so-called normal prices and cut prices. I should mention, also, higher prices. There are still plenty of opportunities for the marketing of petroleum products at prices that are higher than the generally prevailing level. A large percentage of the people are influenced more by service and salesman than by price. Good service and salesmanship on the tank truck, or at the station, are the most important factors in securing business.

"Going back more than 25 years, before the days of ethyl gasoline, when there were comparatively few cars on the highways and large gallonage was unusual, I recall a station in Cleveland which handled only one grade of gasoline which it sold at a premium of 10¢ per gallon. It was putting out more than 30,000 gallons per month, which was almost unheard of in that area at that time. One of the most successful of the old brands was 'Lion Power' gasoline which retailed at a premium of 10¢ per gallon. I recall when we shipped large quantities of that gasoline from Kentucky to points as far east as Syracuse and Utica. There are a great many people who are happiest when they know they are paying the highest price and getting a good product along with the best service. On the other hand, in those localities where the public has become unduly price-conscious, it is entirely the fault of the oil industry; it takes more than a few cut-price marketers in an area to bring about that situation. Often the trouble results from price wars between major oil companies augmented by ill feeling between their local managers. In my opinion, the same fundamental pricing policies are applicable to fueloil marketing as to gasoline, although possibly to a somewhat lesser degree.

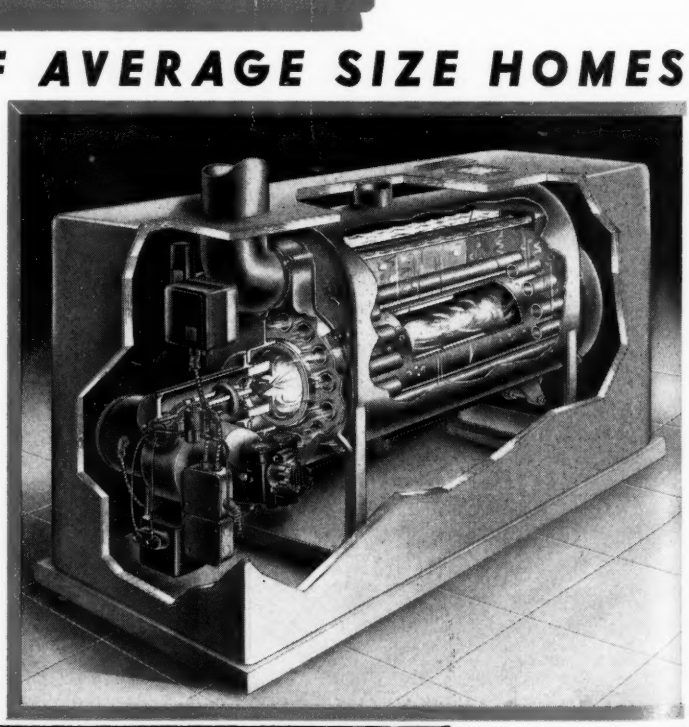
"Some of the largest oil companies appear to recognize the wisdom of welcoming strong independent competition. Most of them, however, give only 'lip service' to that idea. For example, the

Crusade-a-therm

FOR OWNERS OF AVERAGE SIZE HOMES

Biggest *automatic* Heating Value in America!

Recognizing the need for a low-priced but highly efficient completely automatic "package" unit for the average size home, the Bethlehem Foundry & Machine Company combined two of its world-famous products—the Bethlehem Boiler and the Crusader Burner . . . the result being the beautiful, compact and economical Crusade-a-therm! The C-liminator, an ingenious device by Bethlehem engineers, is standard equipment on the Bethlehem Crusade-a-therm. It is an electrical delay switch that completely eliminates smoke on start. This, plus the electrical solenoid valve, which eliminates smoky shut downs and after-dripping causing fumes and vapors, guarantees trouble-free performance.



Crusade-a-therm

is a "*Natural*" for Sales and Profits!

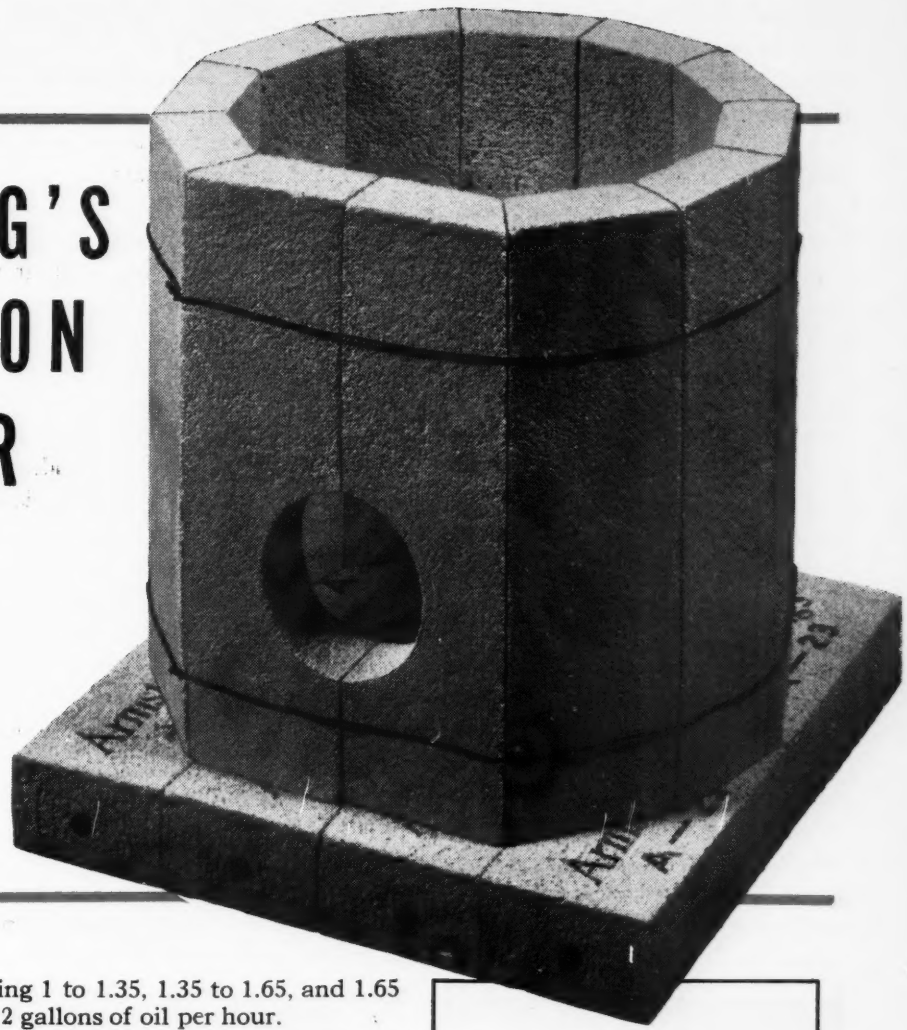
A few exclusive Bethlehem Crusade-a-therm territory Franchises are still available. Wire or write immediately for full information.

BETHLEHEM FOUNDRY & MACHINE COMPANY

BETHLEHEM, PENNSYLVANIA

NEW ARMSTRONG'S COMBUSTION CHAMBER

Easy to sell
Easy to install
Pays for itself
in fuel savings



The new Armstrong's Combustion Chamber improves oil-burner operation. These chambers get hotter in two or three minutes than heavy firebrick chambers do in 15 or 20 minutes. This faster heat-up makes possible higher CO_2 readings with smoke-free burning, less soot, and elimination of oily odors.

Increased efficiencies result in fuel savings of as high as 15%, paying for the chamber in a short time. With an Armstrong Combustion Chamber, burners are quieter because the porous insulating firebrick cut down burner roar. The full 2½"-thick base fully protects concrete floors from cracking.

Armstrong's Combustion Chambers are made from three types of insulating refractories — A-20 for temperatures to 2000° F.—A-23 for temperatures to 2300° F.—A-26 for temperatures to 2600° F. All come in three standard sizes, for burners using 1 to 1.35, 1.35 to 1.65, and 1.65 to 2 gallons of oil per hour.

Armstrong also manufactures a complete line of six standard insulating firebrick for temperatures up to 2800° F. These brick will increase efficiencies in special oil-burner applications where the prefabricated combustion chambers are not adaptable. All Armstrong's Brick have low heat storage and high insulating efficiency, great strength and spalling resistance, and are easy to handle and cut.

Armstrong's Combustion Chambers and Insulating Fire Brick are available through Armstrong's refractory distributors and oil-burner wholesalers in principal cities. For complete details and prices, call your supplier or write directly to Armstrong Cork Company, Insulating Refractories Department, 1406 Mulberry Street, Lancaster, Pennsylvania.

Easy to install. Packaged complete in one carton.

1. Lightweight insulating firebrick are easy to handle. They weigh only ⅓ as much as ordinary firebrick.
2. Factory-cut pieces fit snugly together. They stand firm and square on the base, simplifying chamber assembly.
3. Packaged complete with banding wires and cement. No extras to carry on the job.
4. Pieces are easily notched or grooved to fit around grate lugs and furnace castings.

ARMSTRONG'S COMBUSTION CHAMBERS

Made of Armstrong's Insulating Fire Brick

independent marketers do not get a fair break in the common carrier pipe lines owned by the major companies—nor in the exchange of products and terminal facilities. Those are some of the complaints in the most recent Anti-Trust suit. All that the independents need is an 'even break.' Again I emphasize that a group of strong independents is important to the large companies. There is an old saying that there is safety and strength in numbers. That is especially true when politics and government are involved.

"It is not just an accident that governmental attitude toward farmers is the exact opposite from its attitude toward those industries which appear to be dominated by a few large corporations. The Government supports and guarantees the prices for farm products but complains about the prevailing prices for steel, gasoline and many other commodities. I am sure that, relatively, prices for farm products have been much better in recent years than in the oil industry. The stocks of many of the larger oil companies are selling for less today than 20 or 25 years ago and the dividends paid in the intervening years usually have been modest.

"Generally speaking, investors in oil have not fared so well as in most other industries. Thus, it is for some reason other than excessive profits that the Government is showing such keen interest in petroleum prices. Some of our trouble comes from pressure groups within the industry who place greater reliance on their political influence than in their competitive position in the industry. Especially, I think we should all deplore the recent effort toward a political alliance between certain independent oil producers, coal operators, railroads and labor unions aimed against the importation of foreign crude oil. Such reliance on politics and political alliances to gain competitive economic advantage presents a real threat to all of us. There is an old saying that those who live by the sword shall lie by the sword. Congress is already too conscious of the oil industry for our good. Particularly in the production branch of the industry, state conservation agencies have been used to promote an unhealthy price-rigidity which does not permit reasonable reactions to variations in supply and demand. It is a case of overdoing a good thing. In so doing we are encouraging the kind of governmental interference and regulation of our industry which eventually may bring on price controls and reduce us to the status of a public utility. There is no reason why the production branch of the oil industry shouldn't be willing to bear its fair share of the price adjustments characteristic of changes in supply and demand in a free market. The coal industry and the railroads, which are pricing themselves out of their markets, are not the kind of allies that I would pick for the oil industry in the face of our new competition from greatly increased supplies of natural gas.

Referring further to the increased competition from natural gas, I might mention that after spending considerable time recently with one of the leaders in the metropolitan distribution of natural gas, I am less fearful concerning the extent that fueloil may lose its important position in household heating. I anticipate that our losses to gas will be more than offset by our gains at the expense of coal. Again, I believe the competitive

9 out of 10 New Homes Heat with OIL or GAS

You Sell BOTH Markets

with ALDRICH

HEAT-PAK BOILER-BURNERS

Burners Interchangeable

Expand your market to 90% of new home construction with Aldrich. Sell more, with less inventory . . . cash in with oil units, cash in again with gas burners.

Mounting plates are similar; installation is fast and simple. And you can convert from one fuel to another without changing boiler set-up or performance.

7 makes 14

Aldrich Heat-Pak boilers come in 7 sizes, from 100,000 to 808,000 BTU/hr. With both oil and gas, you have 14 compact heating plants to sell everything from modern small homes to big commercial installations. Vertical-type, compact and efficient; shipped crated fully assembled, ready to set in place and connect.

Profit with ALDRICH—Get Details Today. Write or wire for Heat-Pak facts, full specifications.

ALDRICH HEAT-PAK PRODUCTS

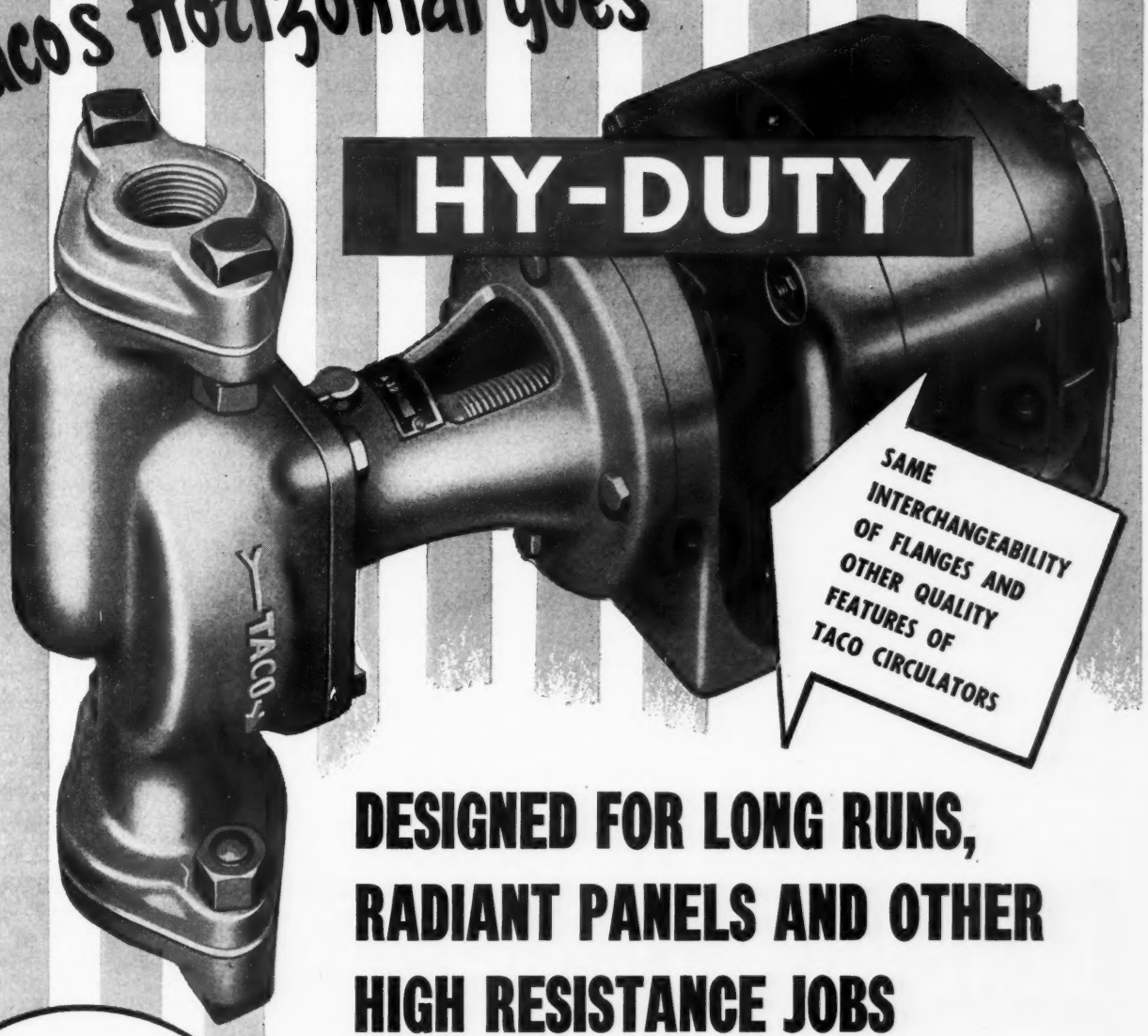
The ALDRICH Company

103 East Williams Street, Wyoming, Ill.

A Subsidiary of Breeze Corporations, Inc.

ANOTHER BREEZE MARK PRODUCT

Taco's Horizontal goes HY-DUTY



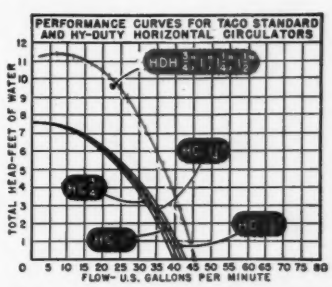
DESIGNED FOR LONG RUNS, RADIANT PANELS AND OTHER HIGH RESISTANCE JOBS

PUMPS 20 GPM AGAINST 10' HEAD

IT'S A BIG BROTHER TO

TACO'S "HC" STANDARD WHICH

PUMPS 7½ GPM AGAINST A 5' HEAD



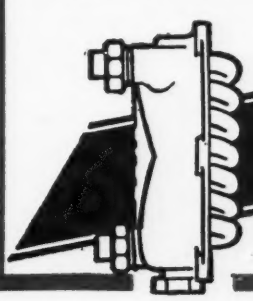
SAVE MORE MONEY
With Taco Venturi Fittings

You use only one Taco Venturi fitting to a radiator . . . on the return. Use same one on downfeed as you use on upfeed radiators.

SEND FOR THIS BOOKLET . . .

Gives accurate engineering for one pipe hot water jobs in easy-to-use tables.

Better Heating-Better with Taco



TACO-ABBOTT SYSTEM

Taco

TACO HEATERS, Incorporated
137 South St., Providence 3, R. I.

advantage will lie not so much in the matter of price as in the relative convenience of the different kinds of fuel and the salesmanship and service with which we promote our business."

The other major feature of the convention was a symposium on gas competition in which the participants were H. B. VanCleve, president, Maritime Petroleum Corp., New York, Dr. Courtney Brown, economist, Standard Oil Co. (N. J.), New York, H. M. Spade, oil-heating manager, E. Robison, Inc., Hartsdale, N. Y., Kirk B. Shivell, of the New York advertising agency of the same name, and Dean Frank W. Thomas, Walter Hervey Junior College, New York.

Harry Hilts, executive secretary of ESPA, and moderator of the forum discussion, introduced the panel and the topic with slides showing results of consumer surveys made on behalf of the Atlantic Coast Oil Conference. Hilts also participated in the question period at the close.

Brown, the first speaker, pointed out that by the end of 1952 it is expected that new cross-country pipeline facilities will have been completed with a capacity to deliver about 1,500 million cubic feet of natural gas a day to the East Coast, which is about 6½% of the competitive mineral energy now used in that market. About half of this new gas will be marketed south of the Pennsylvania state line, about a third in the Middle Atlantic states, and about one-sixth in New England.

Brown further estimated that the new natural gas supplies will displace a potential outlet for some 50,000 barrels a day of distillate oil and about 75,000 B/D of residual oil. Based on past growth trends this would be about one-third of the normally expected increase in the demand for distillates by the end of 1952. In other words, instead of a growth of about 150,000 B/D in the East coast demand for distillates, the arrival of natural gas should reduce the growth to about 100,000 B/D.

The demand for residual fuel, on the other hand, has not shown a very consistent tendency to grow in recent years, and the 75,000 B/D potential loss may represent a real loss in this case.

These expectations are based on the thought that both coal and petroleum will give up about equal volumes of their potential future markets to gas. Whether oil gives up more or less in this three-way competition will depend on the aggressiveness of oilburner and fueloil salesmen during the next two or three years, according to Brown.

Beyond 1952, additional quantities of natural gas are expected to arrive on the East Coast. But the gas boom, expressed in terms of its competitive impact on other fuel markets in the East, is expected to taper off some time after 1952. The United States is currently proving up about twice the volume of natural gas reserves every year as it is consuming. That sounds like a satisfactory position, but with rapidly rising deliveries, it is not enough to maintain very long the ratio of 20 to 1 between proved reserves and annual deliveries that the Federal Power Commission has required before approving large investments in cross-country transmission lines. After 1952 the rate of increase in the arrival of new natural gas supplies should subside, unless the present gas finding rate is very substantially increased, stated

GENERAL FUEL OIL FILTERS ARE SURE FIRE
General FUEL OIL FILTER DELUXE MODEL 2A-300
Deluxe
Model 2A-300
Jumbo size for large systems or dirty tanks.
A General Filter on every oil burner installation is one way to insure against fires going out due to clogged nozzles. Dirt, due to oxidation, will gradually accumulate in every tank so that the older the installation, the more need for a General Filter. Contact your jobber or write direct to the factory for additional information on sizes, prices, and discounts.
General FUEL OIL FILTER MASTER MODEL 2A-700
Master
Model 2A-700
Adequate capacity for average to large size homes.
General FUEL OIL FILTER STANDARD MODEL 1A-25
Standard
Model 1A-25
Ideal for small homes, space heaters, and hot water heaters.
GENERAL FILTERS INCORPORATED
GENERAL FUEL OIL FILTERS
12890 WESTWOOD AVENUE
DETROIT 23, MICHIGAN
CANADIAN FACTORY BRANCH: CANADIAN GENERAL FILTERS, LTD., 2679 DANFORTH AVE., TORONTO, ONTARIO

Dr. Brown in concluding his talk.

The next forum speaker, Van Cleve, started his discussion with the strong implication that research on competitive fuel problems is fine, but that we're already over-researched, and that now it's time to act. Perhaps, he pointed out, it is a little late for our start on this battle.

He believes that it is better to be over-apprehensive about the new competition than to be complacent. A good many of us, he thinks, have been successful at dodging customer responsibility for oil-heating perfection in the past . . . we have progressed in spite of such practices, but can we continue to do it?

Other significant views expressed by Van Cleve include these:

Big companies are going to be less affected by gas competition than are the smaller ones operating in a single market.

No benevolent power is going to rescue the individual fueloil distributor, and if he waits for this he is sure to be the loser.

It won't help to appeal to Government; the farther we keep away from them the better.

One of the oilheating industry's problems is that it's middle-aged . . . with an industry history of 25 to 30 years, most head men today are in the upper 50's. A man of 58 resists change, wants to protect what he has, not aggressively expand.

Gas utilities enjoy local prestige with banks and citizens generally . . . they have no middle-aged condition because they are large enough to have a turnover in men of responsibility.

Fueloil distributors should put one-half to one mill a gallon into promotional programs to bless oilheating; this is tax deductible.

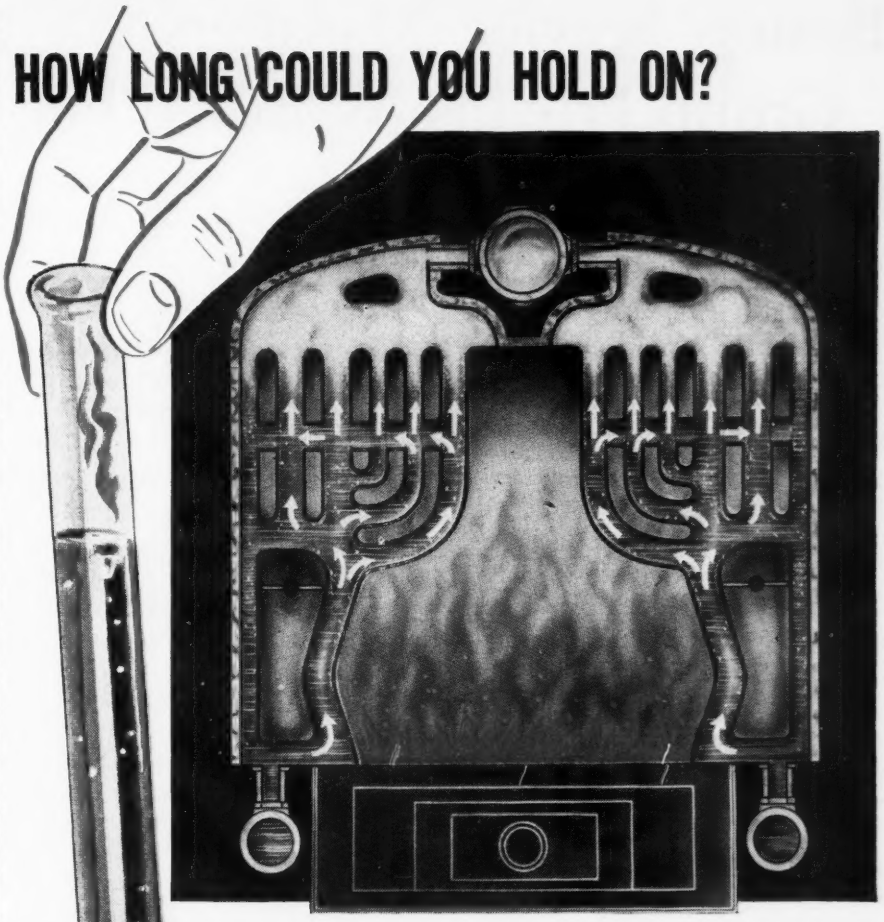
Shivell, next speaker, feels that the industry will enjoy victory in this competitive battle, but explained that it can't be had cheaply, that the next three to four years are critical, and that dealers now seem eager to get lined up into promotional activities for oil heat.

In another section of this issue is an exclusive feature article by Shivell, outlining some of his thinking and the work his organization is doing on the problem.

Herbert Spade, next member of the

(*Continued on page 94*)

HOW LONG COULD YOU HOLD ON?

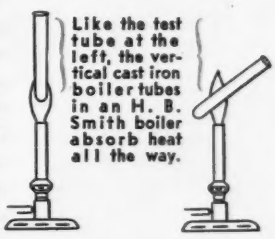


HOT GASES WORK ALL THE WAY UP IN H. B. SMITH BOILERS

. . . just the way they flow up this test tube held over the Bunsen burner. In a matter of seconds you'd have let go.

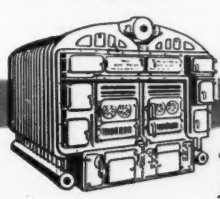
That's one reason why H. B. SMITH cast iron boilers are designed with large vertical cast iron water tubes — for faster heat absorption all the way up and completely around every tube.

There are other reasons of course. 1) Less soot clings to the smooth vertical tubes —they are virtually self-cleaning. 2) Water tube design means maximum heating surface. 3) Properly proportioned channels between the tubes permit free passage of the hot gases with low draft loss. 4) Sections are all grey iron for low maintenance —long life. H. B. SMITH boilers have been in service for more than 65 years. 5) Header type construction permits operation with one or more sections out of service, if necessary.



Like the test tube at the left, the vertical cast iron boiler tubes in an H. B. Smith boiler absorb heat all the way.

. . . all good reasons why Smith Engineered Boilers give more heat per fuel unit, use less fuel, and cost less to operate. For all the reasons write for free catalogue today.



H. B. Smith

CAST IRON BOILERS

THE H. B. SMITH CO. INC., WESTFIELD, MASS.

Most complete line in the world of cast iron boilers for heating

Boston Service Managers Group Proving Worth-While

ON DECEMBER 21, 1949 four men met in Boston to organize the Metropolitan Oil Burner Service Managers Group. The four—Joseph Matachinskas, White Fuel Corp.; William Wildes, Buckley & Scott Utilities, Inc.; Hugh McKee, Massachusetts Wharf Coal Co. and Harold Davies, C. A. Breed Co.—convened to set-up an organization that would permit service managers to pool knowledge so that each could improve his own position and render a greater service to the public through efficient handling of burner service. Ray Horan, vice president in charge of sales, DeSoto Oil Burner Corp., York, Pa., worked with the organizers and assisted them in shaping a working committee by the end of the first meeting.

The next step was mailing letters to most of the fueloils companies in Boston and vicinity, announcing an exploratory meeting for January 20. Sixty-five notices were mailed, thirty-two replies indicated approval of the venture and fourteen men participated in the meeting.

A conference type meeting was held and to keep the group flexible rules and regulations were adopted which dispensed with rules of procedure.

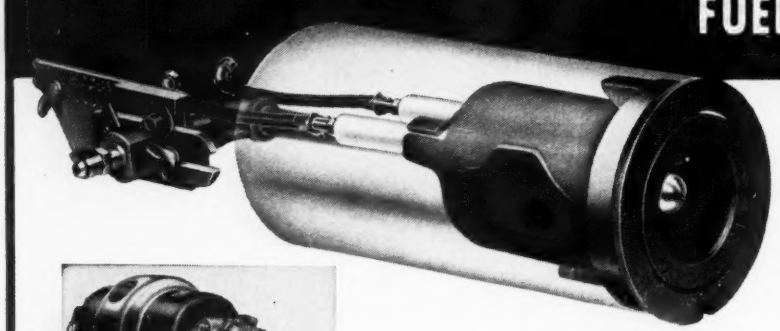
Purpose of the group was expressed as affording an opportunity to service managers to discuss mutual problems, with membership open to any service manager actively supervising servicemen. This automatically limits membership to an organization employing two or more servicemen.

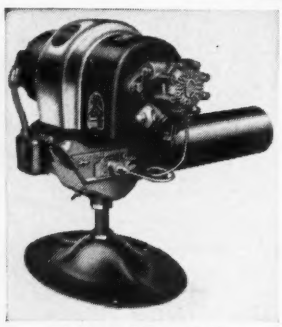
Meetings, it was decided, would be held once a month, with a luncheon on the second Wednesday of each month from 12:30 to 2:30 P.M., or on the third Wednesday if the second Wednesday fell on a holiday. No membership dues or fees would be charged. Instead each member is assessed a nominal amount to defray the cost of luncheons for guests.

Hugh McKee

Since it was the objective to maintain an informal group insofar as possible a chairman and a secretary were named, rather than a formal slate of officers. Joseph Matachinskas was named chairman for a period of a year, but was replaced by Hugh McKee, when he left Boston on May 1 to accept a position

MORE HEAT from LESS OIL with CENTURY'S FUEL-SAVING FIRING HEAD





Models: 01 and 02

Home owners want its economy when they buy Oil Heating Equipment

The new CENTURY adjustable Firing Head is designed to deliver maximum heat . . . efficiently! Positive control of primary and secondary air provides a perfect fuel-and-air mixture to give clean, complete combustion from all types of home heating oils including the newer catalytic fuel oil that is so high in heat units . . . but, ordinarily, so hard to burn.

CENTURY'S new fuel-saving Firing Head is standard equipment on CENTURY Winter Air-Conditioners and Boilers as well as on Conversion Burners up to 5 G.P.H. capacity.

It's easy to Sell these Advantages!

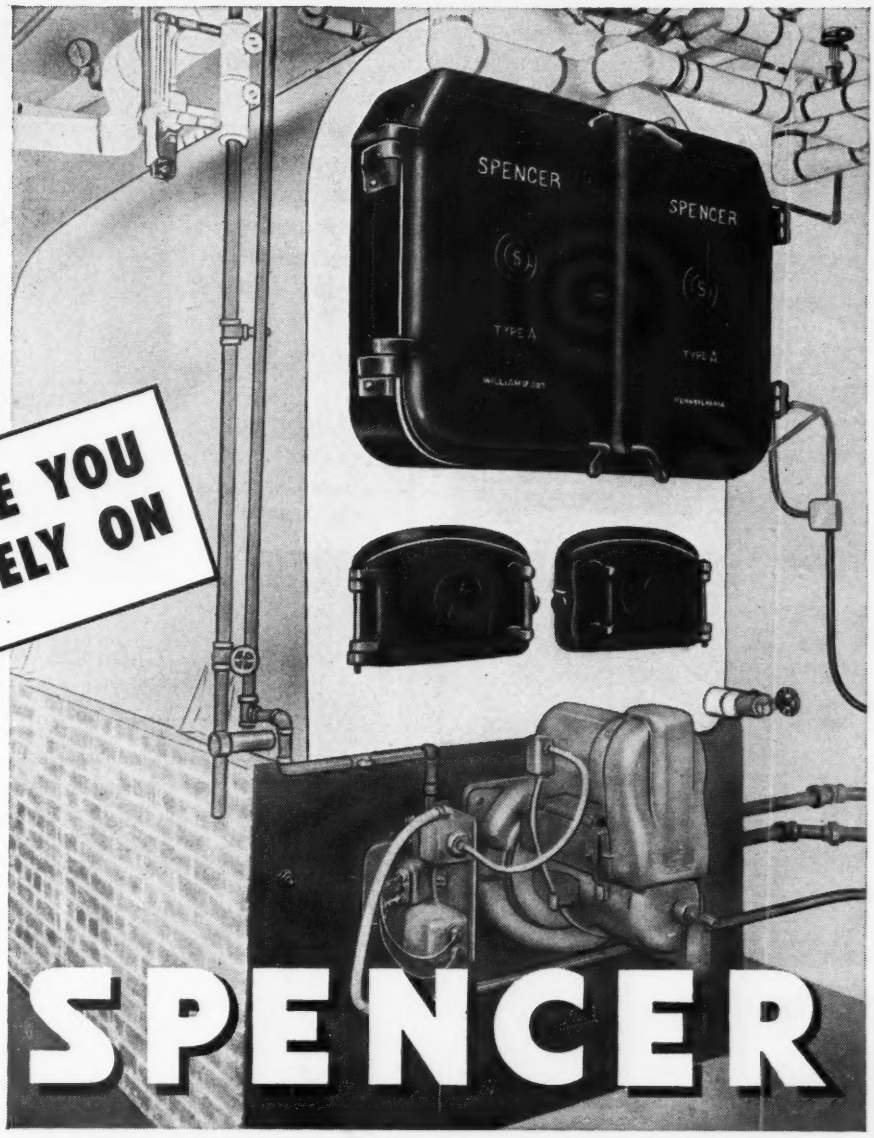
- Fuel economy through better combustion — cleaner fire.
- Easy adjustment for any draft condition.
- Fewer Service Calls.
- Burns all types of domestic heating oil.

Start now to Profit with CENTURY'S Complete Line of Automatic Heating Equipment

CENTURY Winter Air-Conditioners (85,000 — 380,000 BTU — Utility and Basement Models), Boiler Burner Units (380 — 740 sq. ft. of radiation); Convertible Winter Air-Conditioners (60,000 — 180,000 BTU — Gas Burner, Gun Burner, Vaporizing Burner); Oil-Fired Conversion Burners (¾ — 20 G.P.H.), Gas Conversion Burners (87,000 — 250,000 BTU).

Write today for literature . . . or ask to have a salesman call

CENTURY ENGINEERING CORPORATION
MAIN OFFICE & FACTORY • CEDAR RAPIDS, IOWA



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SPENCER

THE QUALITY LINE OF HEATING BOILERS

VERSATILE

Boilers to fit all types of oil burners, all sizes of installations. Capacities from 290 to 45,000 square feet, steam.

DEPENDABLE

Precision-engineered and manufactured to give superior, *guaranteed* service.

THERE IS A SPENCER FOR EVERY BUILDING

49 Dependable Models to Choose from

Write for free catalog today

SPENCER HEATER
LYCOMING-SPENCER DIVISION
WILLIAMSPORT AVCO PENNSYLVANIA

Constructed in accordance with ASME requirements. Fully approved by Steel Boiler Institute or Institute of Boiler and Radiator Manufacturers

with an oilburner dealer in another city. William H. Wildes was named secretary.

One stipulation was injected, providing that problems that arise within the Group that cannot be covered by the rules are to be placed before any meeting for discussion and left to a vote of the membership for decision. To date, it has not been necessary to invoke this provision.

The Group, covering all of Boston and suburbs, accepts applications for membership from any area within commuting distance. Patterned after a similar organization functioning in Philadelphia, the Boston group accepted seven new members at the February meeting and four in March, making a total of twenty-five memberships—service managers from the following companies:

Automatic Heating Corporation
George R. Bascom Company, Inc.
C. A. Breed Company
Buckley & Scott Utilities, Inc.
Bushnell & Chase, Inc.
Carney-Young Utilities Corporation
Cities Service Oil Co.

William H. Wildes

Clifco Company
Charles Clough Oil Burner Service Co.
Esso Standard
Robert Fawcett & Son, Inc.
General Oil Company, Inc.
General Oil Burner Service Supply & Appliance Co.
H. C. Greenlaw Company
Jenney Manufacturing Company
Lipson's Oil Company
Mass. Wharf Coal Company
Metropolitan Coal Company
George W. Pickering Company
Scott-Williams, Inc.
Shannon Company, Inc.
Robert C. Spence Company
Stetson Fuel Company
Templow Oil Burner Company
White Fuel Corporation

The first and second meetings were addressed by Fred N. Beckwith, secretary, Oil Heat Institute of New England, but the April gathering and subsequent sessions are to be patterned along a conference type meeting, with speakers drawn from the members. Essentially, the chairman's function is to lead the discussion and build each meeting around some particular phase of the service manager's duties.

◈

I. P. Newby is acting as sales representative in the southwest Texas territory for National Radiator Co., Johnstown, Pa. With headquarters in Dallas, Mr. Newby will supervise territorial sales of the National line of residential, commercial and institutional heating equipment.

The New
MIRROR FINISH
STEINEN
NOZZLE
Assures Better Burner Performance

1. Mirror finish causes heat deflection and prevents carbon collection.
2. Micro-atomized spray for intensified heat.
3. Uniform shutoff.
4. Nozzles are interchangeable for different types of burners.
5. Each nozzle individually tested to assure accuracy of rated capacity.
6. Made in hollow and solid spray types.

STEINEN NOZZLE KIT
Contains
60 Nozzles
4 Adapters
Nozzle Jig
Light Weight Metal Tray

Metal stampings and screw machine products of all kinds such as air bands, air shutters, bushings, adapters, etc. made to your specifications.

WILLIAM STEINEN MFG. CO.
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STEINEN — THE SEAL OF QUALITY PRODUCTS

NEW BOOKS

INSTALLING THE DOMESTIC OILBURNER

This is the first practical guide on oilburner installation. It contains the most significant articles from FUELOIL & OIL HEAT that cover all phases of installation step by step. It is 8½ by 11 inches and contains 64 pages. Illustrated with numerous diagrams, charts and photos.

$1.

LOW PRESSURE BURNERS

Only book other than manufacturers' manuals that gives a full picture of low pressure burner principles of operation and construction—Winkler, Oil-O-Matic, G. E., Hart, Hev-E-Oil. Skeletonized diagram of each make of burner makes them more understandable. The new booklet is 8½ by 11 inches, contains 20 pages.

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OILHEATING SNAGS

This book gives the solutions to many of the Everyday Snags that annoy you in installation and service. We've been working on them for years. They are all simple and practical answers to the most common goat-getters on jobs. It's an 8½ by 11 inch book of 64 pages.

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HEADING OFF TROUBLE IN DOMESTIC OILHEATING

This book contains articles about the most important precautions to take in installations and service and thereby cut down the number of service calls. The selection is about those things which give the greatest amount of future trouble for service men. A highly practical compilation of pieces from FUELOIL & OIL HEAT. It's a 64-page book 8½ by 11 inches.

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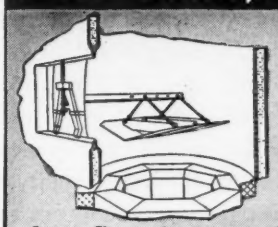
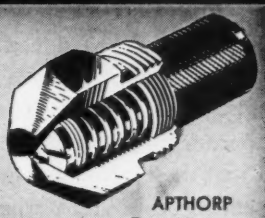


Boston Chrome Steel "HANG-DOWN" BAFFLE

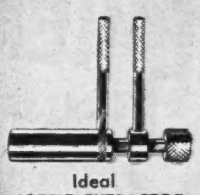


APTHORP True Alignment OIL BURNER NOZZLE

BOSMACO

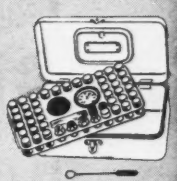
Instant-Glo COMBUSTION CHAMBER

The Boston Standard DRAFT CONTROL



Ideal NOZZLE EXTRACTOR

Clearview OIL TANK GAUGE



BOSMACO Apthorp NOZZLE KIT

WRITE FOR COMPLETE INFORMATION

BOSTON MACHINE WORKS COMPANY

Oil Heating Supplies Division, Manufacturers, Lynn, Mass.

NOW is the TIME to "CLEAN-UP" with a GRAND RAPIDS FURNACE CLEANER

Act Now! Get in on this year's cleaning profits. *Order a Grand Rapids Furnace Cleaner.*

IT'S FAST—Handles twice as many jobs as the ordinary furnace cleaner.

IT'S THOROUGH—High velocity suction completely removes ashes, soot, scale and dirt from every type of heating plant.

IT'S COMPLETE—A packaged unit with practical cleaning attachments designed for fast, easy cleaning.

IT'S PROFITABLE—The trouble-free operation and speedy service of the Grand Rapids Furnace Cleaner puts extra profits in your pockets.

Send today for complete information about the Grand Rapids Furnace Cleaner.

DOYLE VACUUM CLEANER CO.

233 Stevens St., S.W. Grand Rapids 7, Michigan

Blazer Criticizes Pricing

(*Continued from page 89*)

panel, had been assigned the subject, "Standards and Practices." His first point had to do with the responsibility of burner manufacturers, in which he felt that they should definitely train and supervise dealers, that the engineering and merchandising methods of some manufacturers needed overhauling.

Dealers, he pointed out, need to better understand their operations, not only for better earnings but for greater industry stability under the new competitive conditions. He advocated some method of policing new burner installations, possibly within the local association. Where a prospect for oil heat has a bad boiler or furnace the dealer should refuse to make a conversion installation.

Service quality, be believes, is a matter needing constant attention. Even the best service men need continuous training. Sell the customer preventative service. The annual contract with parts is what the average customer wants.

From refiners the industry needs uniformly good quality at stable prices . . . prices that don't fluctuate frequently. If the oil specifications are wrong, it is the oilheating industry that falls down in customer acceptance.

The most important of all needs today, in Spade's view, is to awaken our own people, our employees, to the true facts of our advantages, convincing them that no other heating method can match what we offer.

Thomas, the closing speaker of the forum, believes that the oilheating industry has failed woefully in the recruiting and training of salesmen. "The day of the bird dog, floater and bell pusher is gone" he continued, "the industry cannot afford these types of salesmen . . . they are downright criminal in the face of the potential markets which have been lost by their bungling methods of presentation."

He classified many present salesmen in the oilheating industry in the following categories: (1) Men with sales ability in other lines but with insufficient knowledge of oilheating equipment and service; (2) Service men with technical knowledge about oilheating but with no ability to present this information in nontechnical terms to the customer; (3) Salesmen with a "gift of gab" and an enthusiasm for selling but without knowledge of techniques of selling nor the essential information on oilheating.

In discussing the oil heat sales training at Walter Hervey Junior College, Thomas said that it was necessary to "custom-make" the instruction for the type of man. The trained service man, aiming for sales, must be given sales techniques, presentation values, marketing factors and personality hints; the salesman with limited experience must be given technical information, surveys of the field he is in, refurbishing of sales techniques as they apply to oilheating; the beginner must get everything—speech, sales psychology, sales techniques and product information.

Thomas announced that by request of Hilts and his association, the school was starting an accelerated selling course for oilburner salesmen, of only two weeks duration. Classes are all day for five days each week, plus two evenings. Total cost for the short course, including tuition and board and room for the two weeks at the YMCA, is $150.

Safe, dependable YULA Fuel Oil Heaters are standard equipment with leading oil burner manufacturers and installers everywhere. Precision built to give practical amount of preheat to fuel oil and assure top combustion efficiency. It is a recognized fact that YULA gives better performance than any other heater. For steady, profitable sales and satisfied customers — stock YULA Fuel Oil Heaters!

Write for free catalog No. F150

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WATER HEATERS, INC.
166 WEST 225 ST. • NEW YORK 63

Yula Water Heaters, Inc. FO6
166 West 225th Street
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Gentlemen:

Send me your detailed Catalog.

Name .....

Address .....

Here is warm air heating comfort that can't be matched!

Temperature varies no more than 4° floor-to-ceiling . . . 24-hours a day! A constant circulation of gentle warmth replaces the alternately over-warm and slightly chilly effect common with ordinary stop-and-go systems. Superfex is different in principle, different in design, different in the heating result delivered.

The three-stage principle (pilot to coaster to high fire) automatically adjusts the heat level—and with synchronized high-low blower action, provides a continuous positive flow of filtered and humidified warm air. There are many other exclusive features that can be promised because every feature has been tested and proved under severe conditions. That's why architects and heating experts recommend it! That's why *you* should investigate it *now!*

Superfex FURNACES

PERFECTION STOVE COMPANY
7195-C Platt Avenue • Cleveland 4, Ohio

A COMPLETE LINE OF WINTER AIR-CONDITIONING FURNACES
GAS AND OIL

fuel oil & oil heat

SERVICEMEN REPORT

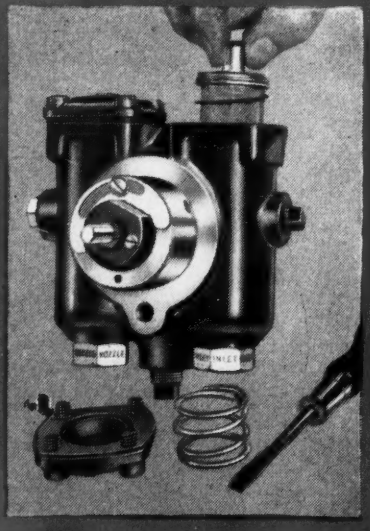
CLEAN and EASY!

You Save Clean-up Time— when you use Webster Electric Fuel Units!

With screwdriver and 10" adjustable wrench it is easy to remove the strainer, seal and valve parts on the job.

The strainer assembly of all Webster Electric fuel units is easily removed vertically, from the top. Not a drop of oil need be spilled. The assembly is so designed that the open-end cylinders are easily separated by means of a thumb nut. Screens can be cleaned on both sides in a quick, easy service operation, right on the job.

The ease of servicing Webster Electric fuel units is a feature that makes them the choice of servicemen everywhere.



WEBSTER ELECTRIC

Webster Electric Company, Racine, Wisconsin · Established 1909

"Where Quality is a Responsibility and Fair Dealing an Obligation"

In the business meetings of the convention, Thomas Brown of New Rochelle was elected president of ESPA, Elbert J. Townsend, first vice-president, M. J. Connor, second vice-president, George L. Savory, third vice-president, Frank Bertch, fourth vice-president, E. C. Drake, treasurer, and Joseph G. Mintzer, sergeant at arms. New directors elected were H. M. Spade, James Cavanagh and Peter Cirillo. Harry Hilts was re-elected executive secretary, and Charles Lockard assistant secretary.

U. S. Department of Labor Fueloil Prices (March)

FIELD INVESTIGATORS for the Department of Labor monthly check prices of principal fuels in several cities in each section of the country. Getting retail quotations from various suppliers in each market, the prices are averaged and published. Those in the table that follow were taken March 15 (cents per gallon):

	Range	*No. 1*	*No. 2*	*No. 3*
Boston	13.77	13.60	11.50	..
Manchester	14.50	14.00	12.20	..
Portland, Me.	13.60	13.60	11.50	..
[2] Buffalo	14.54	..	12.93	12.93
[1] New York	..	..	11.15	..
Philadelphia	..	11.78	10.88	..
[1] Chicago	13.81	13.46	12.55	12.55
[3] Detroit	..	14.21	13.18	..
Milwaukee	..	14.00	13.10	13.00
[1] Kansas City	..	12.24	11.22	11.22
Minneapolis	14.17	13.93	12.88	12.93
[1] Baltimore	..	12.34	11.42	..
[1] Wash., D. C.	..	12.82	11.83	..
Jacksonville	..	13.83	12.52	..
Norfolk	..	12.60	11.00	11.00
Richmond	..	13.00	11.40	..
[6] Savannah	..	14.50	12.60	..
[5] New Orleans	..	13.82	12.36	12.36
Portland, Ore.	..	13.94	11.64	6.55
[4] San Francisco	..	13.77	11.44	6.48
Seattle	..	14.77	12.65	6.74

[1] Prices include 2 percent tax.
[2] Prices include 1 percent tax.
[3] Prices include 3 percent tax.
[4] Prices include 3.5 percent tax on all fuels except gas.
[5] Prices include 3 percent tax on all fuels except gas; prices for kerosene and fuel-oil No. 1 also include one cent per gallon State health tax, and 1/32 of one cent per gallon State inspection tax.
[6] Inspection tax of one cent per gallon included on kerosene only.

Hubert S. Mount has been appointed manager, Sun Oil Company's sales engineering Department. He succeeds William A. Courtenay, Jr., who had been in charge of this type of work.

Home Owners Shift to Oil, Report Savings of 25 Percent

THE APRIL 11 *Long Island (N.Y.) Star-Journal* reported that members of the Parkway Village Association, Flushing, N. Y., who had converted last September from gas to oilheating had realized a 25% saving on fuel bills during the heating season. Bernard Gorson, association president, said that about thirty residents decided upon conversion rather than continue to pay high bills for gas heat that followed a rate increase allowed the Consolidated Edison Company in January 1949.

Mr. Gorson revealed that the homes involved showed an average saving of $100 in fuel costs and, on this basis, the cost of converting would be amortized in three years. He also stated that Consolidated Edison, when it heard that the conversions were contemplated, sent representatives who told the home owners that costs might be reduced considerably when natural gas becomes available in the area, but they offered no concrete evidence that the company has any intention of lowering its rates.

Esso to Add 84 Million Gallons East Coast Storage

AS THE SECOND STEP in the company's tankage building program initiated last year, Esso Standard Oil Co., New York 19, N. Y., has announced plans for the construction of 84 million gallons additional storage capacity for heating oil along the East Coast. The over-all plan is designed to reduce seasonal fluctuations in refinery production and assure ample heating oil supplies during the winter months.

Stanley C. Hope, president, commenting on the seasonal demand for heating oil, remarked that the peak demands of the consumer can best be met by building up inventories during the Summer. Winter demand, he continued, pre-war exceeded summer demand by about 300,000 bbls. per day and today this difference has increased to 500,000 bbls. per day.

This huge increase in winter demand, without adequate storage, can be met only by using refining equipment and tank ships held idle the rest of the year.

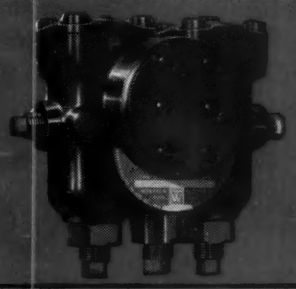
Webster Electric FUEL UNITS

A Complete Line of Single-Stage Fuel Units

for all high-pressure type oil burners

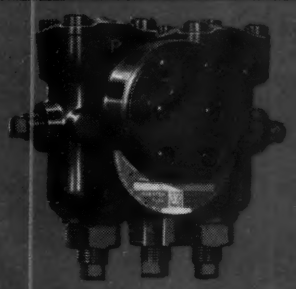
1Q-4000

The 1Q-4000 is designed to handle the maximum domestic requirements. It is used primarily for inside tank installations. Capacity 7 gallons per hour.



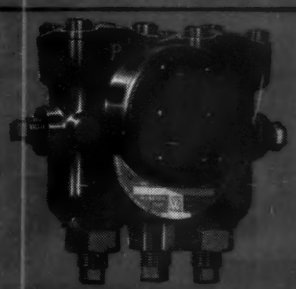
1Q-5000

The 1Q-5000 is for lower capacity requirements and smaller domestic installations. Capacity 5 gallons per hour.



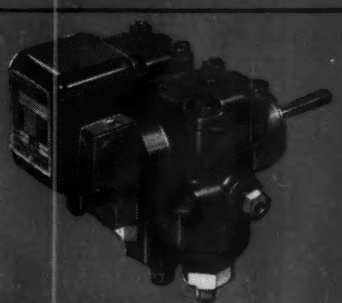
8Q-4000

The 8Q-4000 is a modification of the 1Q-4000 and has the felt filter for fine particle straining. Capacity 7½ gallons per hour.



9Q-4000

The 9Q-4000 incorporates the instantaneous cut-off feature, otherwise it is the same in design as the 1Q-4000 fuel unit. Capacity 7 gallons per hour.



Webster Electric Fuel Units are also furnished in two-stage models for high lift conditions and outside tank installations. Complete data on single-stage and two-stage units is available upon request.

WEBSTER ELECTRIC

Webster Electric Company, Racine, Wisconsin • Established 1909

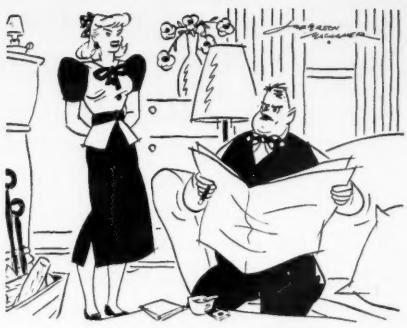
"Where Quality is a Responsibility and Fair Dealing an Obligation"

Oil Shows Gain For Heating In Milwaukee

THE 1950 CONSUMER ANALYSIS, compiled by *The Milwaukee Journal*, reveals that 25.2% of the homes are heated with oil, an increase from the 19.7% who used oil for home heating in 1949. Coal or coke is employed for heating in 70.7% of the homes, a decrease from 77.4% last year and gas is used in 4.8% of the homes, up from 4.2% in 1949. A tabulation showing the figures for the last five years follows:

Coal or Coke	*Percent*	*Number*
1950	70.7	179,585
1949	77.4	189,500
1948	77.8	185,985
1947	83.2	194,298
1946	86.0	196,879
Oil	*Percent*	*Number*
1950	25.2	64,010
1949	19.7	48,256
1948	19.0	45,408
1947	14.2	32,928
1946	12.4	28,314
Gas	*Percent*	*Number*
1950	4.8	12,192
1949	4.2	10,288
1948	4.0	9,559
1947	3.4	7,940
1946	2.1	4,820

Of the families who have a water heater separate from the heating plant, 83.5% use gas, 11.8% electricity, 3.0% coal, 1.4% oil and .3% don't know what fuel is consumed. Of all the water heaters 50.8% are manually operated, 43.5% are automatic and the balance, 5.7%, marked questionnaires that they did not know whether automatic or manual operation was employed.



"About my allowance, daddy-- I danced with your accountant last night-"

Convectors Covered In Simplified Practice Standard

PRINTED COPIES of Simplified Practice Recommendation R238-50, Convectors, are now available, according to an announcement by the National Bureau of Standards. The recommendation, proposed jointly by the Convector Manufacturers Association and the Institute of Boiler and Radiator Manufacturers, was developed cooperatively by producers, distributors, users, and others concerned, through the established procedure of the Commodity Standards Division of the Bureau.

The recommendation is basically a simplified list of sizes and types of convectors used for heating houses, apartments, offices, schools and ships. Convectors with non-ferrous and cast-iron heating units are included. The various types of convectors are defined and illustrated by outline drawings. The simplified list will represent a substantial reduction in the number of combinations, and should afford an adequate selection for ordinary use and for stock.

Printed copies of R238-50 may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., for 5 cents each. A discount of 25 per cent is allowed on orders of 100 or more copies.

A filter for every Oil Burner Service

SPARKLER FUEL OIL FILTER

Model OB-2 actual size

Approved by Underwriters' Laboratories

THREE SIZES OB-2 OB-4 OB-8

You get

- ★ **A nice profit item**
- ★ **Easily stocked refill element. One type filter disc used on all filter sizes.**
- ★ **Reduction in service calls due to clogged nozzle screens.**
- ★ **Customer satisfaction — no burner trouble when filling of tanks stirs up sediment.**

The positive seal prevents by-passing of unfiltered oil, this eliminates trouble due to clogged nozzle screens. All oil that reaches the burner is filtered through the rayon element that removes minute particles down to .002 and any water in the oil. This is particularly important with small size burners used in the average home.

Three sizes—OB-2 for average home size burners. OB-4 for larger burners or unusually dirty tanks. OB-8 has four times the capacity of OB-2.

Order from your jobber

SPARKLER MANUFACTURING CO., Mundelein, Ill.

Makers of industrial filters for the Food, Chemical, and Oil Processing industries for over a quarter of a century.

Member, Oil Heat Institute of America

Super Duper BURNER CO.

FIELD ENGINEERING Memo

FROM: G.W.T.

TO: A.W.L.

Dear Alvin:

In reply to your Field Report #786 we can only conclude that you did not receive the Engineering Bulletin which we mailed to you c/o General Delivery at Allentown last month. If you had, you would have known that the only answer to the trouble you reported due to flame rod failure on Amalgamated Twisted Pretzel Co.'s burner is the Fireye Flame Rod.

The sooner you realize that flame rods which act on the electrical rectification principle alone, are often undependable... because all gas flames are not rectifiers...the sooner you will stop wasting time on this needless trouble.

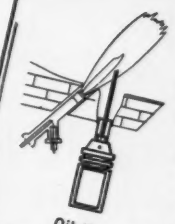
You can forget all about flame rod trouble if you'll stick to Fireye Flame Rods. Our field reports show that they give dependable, safe protection on all types of gas flames and all types of burners...as shown on the enclosed drawings taken from the Engineering Bulletin which you probably got, but didn't read.

Even without the trouble you report, we'll feel safer if you stick to Fireye, because their special alloy rods outlast the stainless variety you reported, by 4 to 1.

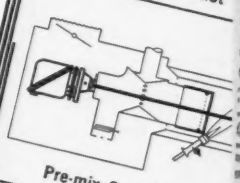
If you really didn't get that engineering report, return the post card enclosed and we'll bring you up to date so you'll be able to forget flame rods and get some profitable work done.

George
George

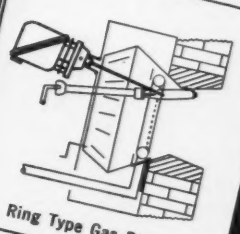
P. S. Thanks for sending that carton of pretzels. The boys washed them down with beer at the Friday P.M. bowling session.



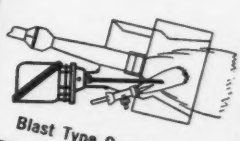
Oil Burner Pilot



Pre-mix Gas Burner



Ring Type Gas Burner



Blast Type Gas Burner

Send the card which George enclosed to get *YOUR* copy of "SERVICE HINTS ON RODS" containing complete installation and servicing information.

Combustion Control Corp.
77 Broadway, Cambridge 42, Mass.

George —

"Send me that copy of 'Service Hints on Flame Rods'"

Name _____

Company _____ Title _____

Street _____

City _____ Zone ____ State _____

fireye

COMBUSTION CONTROL CORP.

Flame Failure Safeguard for Oil and Gas Burners
Photoelectric Smoke Indicators

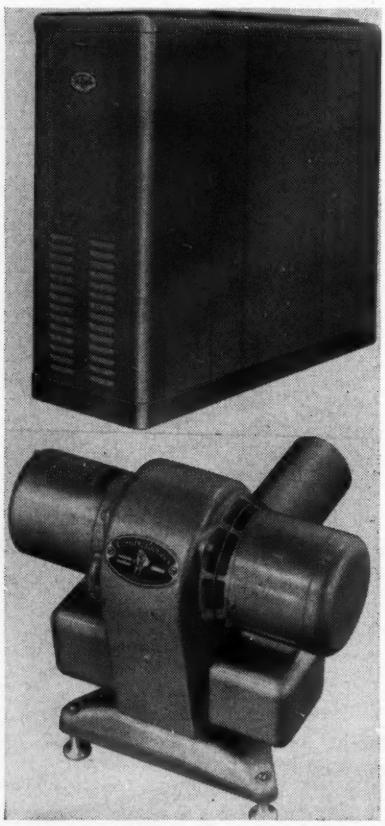
77 BROADWAY, CAMBRIDGE 42, MASS.

New Products

Combustioneer Announces Line Of Oilburners and Furnaces

ADDITIONS of conversion oilburners and oilfired furnaces to its line have been announced by Combustioneer Div., Steel Products Eng. Co., Springfield, Ohio. The model dHP burners are of the pressure atomizing type, incorporating a triple velocity Visorhead combustion head. The head mixes three main air velocities with the oil and is designed also to force the air downward at the nozzle. Burner sizes range from .85 to 2 gph, with both flange and pedestal mountings available. All castings are machine finished for precision alignment and assembly.

The burners are standard equipment in a line of oilfired furnaces, including two Hi-Boy and three Aristocrat models. All are forced air models, with sizes from 110,000 to 245,000 Btu input. A heavy 10 gauge steel heat exchanger is designed so that the top, sides and flat bottom all are primary heating surfaces, combining the up-draft theory with the down-draft principle. Flue outlet is located at the bottom of the heat exchanger. Preheated air is injected into the oilburner. All are equipped with Combustioneer stainless steel humidifiers.



General Filters Are Shipped With Fiber Shipping Plugs

GENERAL FILTERS, INC., Detroit, Mich., for the past year has been shipping its fuel oil filters with fiber plugs inserted in the inlet and outlet openings. Purpose of the plugs is to protect the filter-

ing element from entrance of dirt prior to installation.

Surveys indicated that many filters has collected sufficient and dirt in shipment and while in stock on dealer's and jobber's shelves to impair their operating efficiency after installation. The shipping plugs were decided upon and developed to insure a clean filter right up to the time the oil lines are connected.

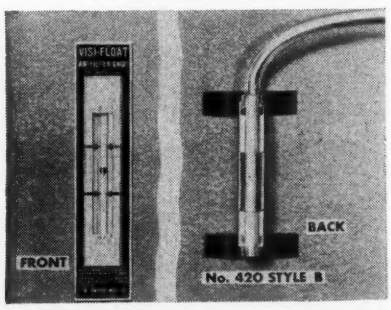
Steinen Burner Nozzles Feature Mirror Finish

A LINE of oilburner nozzles, available from William Steinen Mfg. Co., Newark 5, N. J., features a mirror finish, which causes heat deflection and minimizes carbon formations. The company produces a line of oilburner tools, nozzle adapters and similar screw machine products and subjected the nozzle line to a series of extensive field and performance tests before marketing.

Available in either hollow or solid spray types in a full range of sizes, the nozzles feature micro-atomized spray and uniform shut-off. Each is individually tested for rated capacity.

Dwyer Visi-Float Air Filter Gage

VISI-FLOAT air filter gage, developed by F. W. Dwyer Mfg. Co., Chicago 12, Ill., is a device for determining the condition of air filters in a forced air heating plant. Mounted on the outside of the furnace, a plastic tube runs from the gage into the blower changer and through filter or filter frame. As the difference in air pressure from above filters to below filters increases, a float rises in the transparent gage glass. When



the float reaches a red mark, it indicates that the filters need changing or cleaning.

Body of the gage is molded lucite. To install it is mounted on the upstream side of the filter and requires

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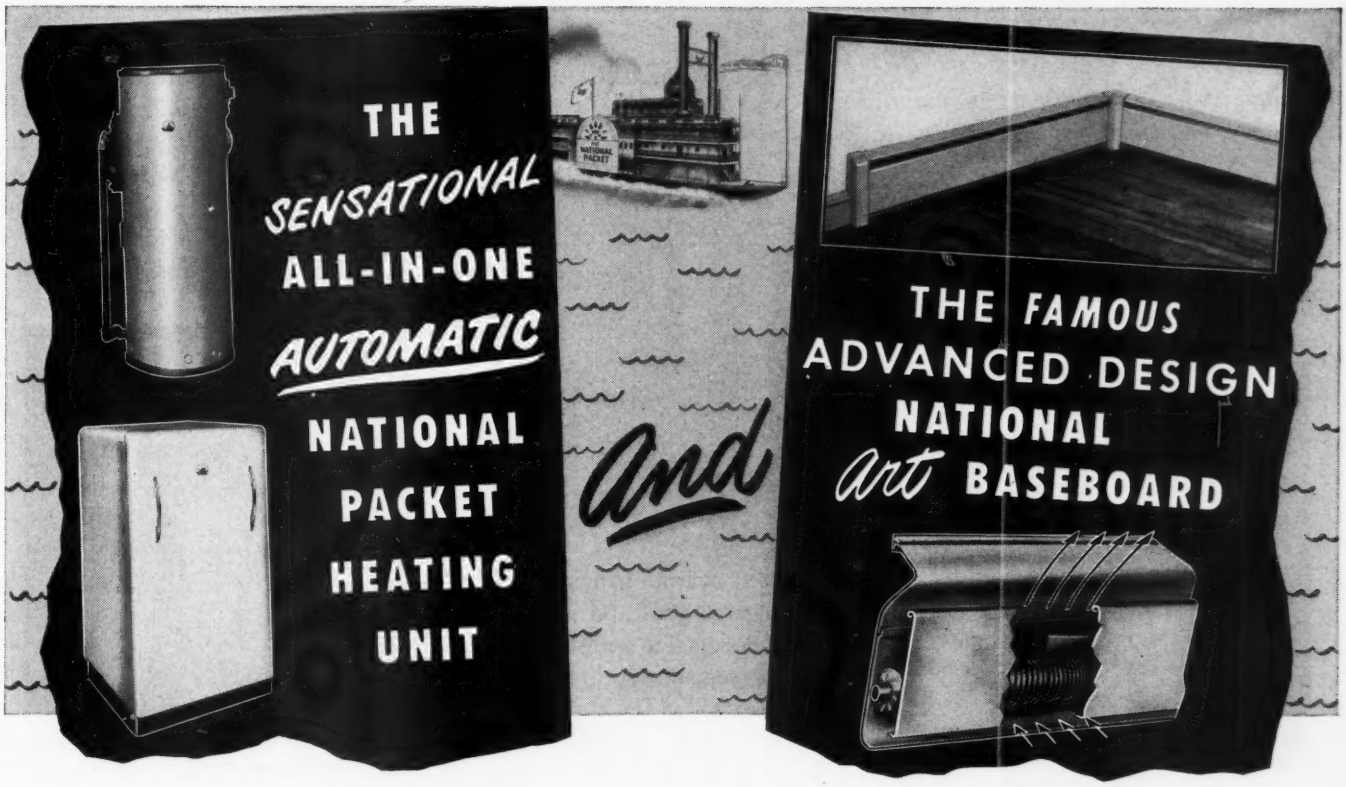
NATIONAL PACKET
HEATING SYSTEM!



Compactness + Efficiency + Economy

This all-inclusive, easy-to-install National Packet Heating System is just what you have been looking for to meet today's demand for an inexpensive, complete hot-water heating installation for small homes, individual apartments, motels, diners, stores, etc.

Low price, low installation costs, exclusive engineering features, space saving and assured satisfactory performance make this complete National Packet Heating system highly profitable in every respect for all—Wholesaler, Heating Contractor and Owner.

NATIONAL PACKET HEATING UNIT FEATURES

- High operating efficiency
- Built-in expansion tank and air eliminators
- Tankless domestic hot water using jet-flow principle
- National "Raytrol" simplified control system
- Unusually compact—attractive appearance

NATIONAL *art* BASEBOARD FEATURES

- Combined radiant and convected heat at floor level
- Even heat distribution
- Inconspicuous—can be painted to match walls
- Clean heat—no dirt streaks—healthful heat
- More living space—no extra units to take up floor space

NRC

SEND COUPON TODAY

THE NATIONAL RADIATOR COMPANY
JOHNSTOWN, PENNSYLVANIA

The National Radiator Company
Dept. FO
Johnstown, Pennsylvania

Please send me further information on the

- ☐ Complete National Packet Heating System
- ☐ National Packet Heating Unit
- ☐ National Art Baseboard

Name_____

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fueloil & oil heat

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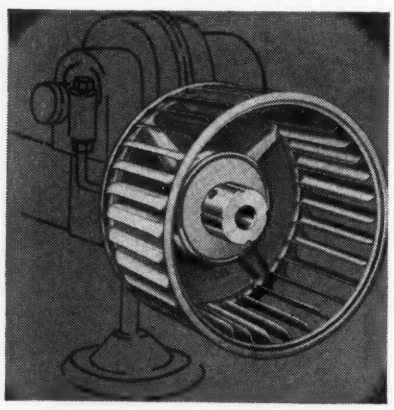
only two ¼" holes in the furnace cabinet. All needed parts for installing are furnished, and the gage is calibrated at the factory.

The gage may be applied also on window ventilators and air conditioners.

Torrington Improves Free-Wheeling Blower

IMPROVEMENTS and additional tests have been announced on Airotor free-wheeling blower wheels, available from Torrington Mfg. Co., Torrington, Conn. The "fan with the coasting hub" has been designed to solve after-fire problems by maintaining the air supply until the fire burns out clean.

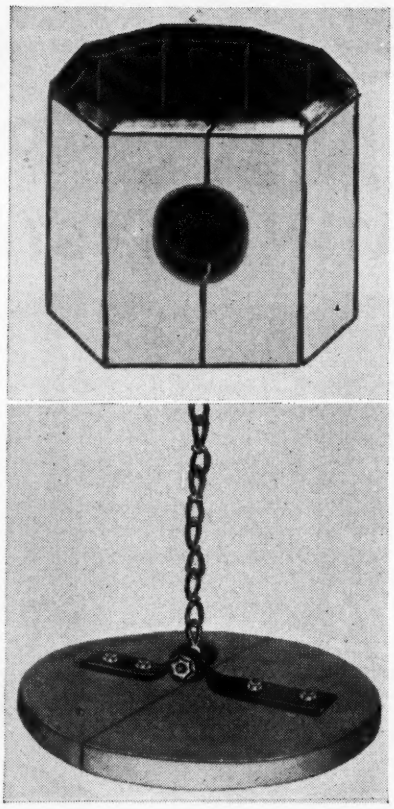


This is accomplished by a fan design that permits it to continue to supply air after the pump and motor stop, forestalling smoke, soot formations and fouling of electrodes. The new wheel fits all standard shaft extensions, can be furnished for Lovejoy or Guardian couplings. It is adaptable for inclusion in new burners or can be sold to replace easily blower wheels in presently installed pressure atomizing oilburners.

S.O.S. Adds Light Weight Combustion Chamber, Baffle

S.O.S. ECONOMIZER INSULATING, light weight combustion chamber and firebox circular baffle have been added to the line offered by S.O.S. Products Co., Inc., Brooklyn 22, N. Y.

The combustion chamber is kiln-fired to insure long life under 2600° F. working temperatures. It is easy to install and may be cut with a saw; can be adapted to make a chamber of any shape and is delivered cartoned with a castable floor.



The "fused quartz" hanging baffle is made of highest grade refractory materials, also designed to withstand 2600° F. operating temperatures. Each is individually packaged in cartons, with heat resistant hardware including 4 ft. of heavy, welded chain. The baffles are available in 12", 14", 16", 18" and 20" diameters.

Turb-O-Tube Oil Furnaces In Floor and Ceiling Models

A LINE OF OILFIRED furnace-burner units is being offered by Turb-O-Tube Furnace, Inc., Buffalo 8, N. Y. Available in standard floor models, as well as in ceiling-suspended units, three basic furnaces comprise the line. The smallest unit has a rating of 75,000 Btu at the bonnet, the second develops 105,000 and the third 150,000 Btu. Firing rates of the pressure type burners that are used with the furnaces are .75, 1.0 and 1.35 gph for the three models.

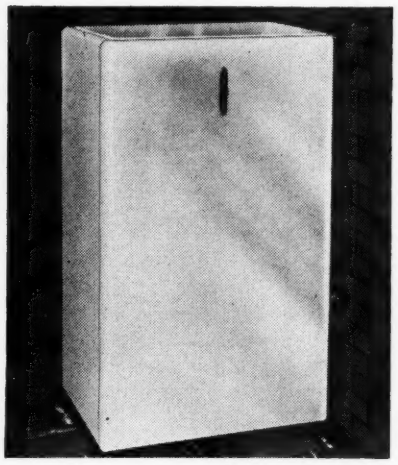
Construction of the furnaces features a series of tubes that run the length of the furnace, positioned to extract heat from the flue gases. The entire heat exchanger is surrounded and scrubbed by moving air. Parts and components are located to be easily accessible for inspection, cleaning or repair.

York-Shipley's Levittowner Is Radiant Heating Boiler

THE LEVITTOWNER boiler-burner unit, announced by York-Shipley, Inc., York, Pa., has been contracted for by Wm. Levitt & Sons for installation in 4,000 homes being built this year in Levittown, L. I., N. Y. These supplement a similarly designed boiler installed in 4,000 Levitt homes in 1948.

The new model is more compact, the entire unit occupying only 5 sq. ft. of floor space and standing 51" high. It has been enclosed in a gleaming white, refrigerator-type cabinet so that it can be installed in the kitchen.

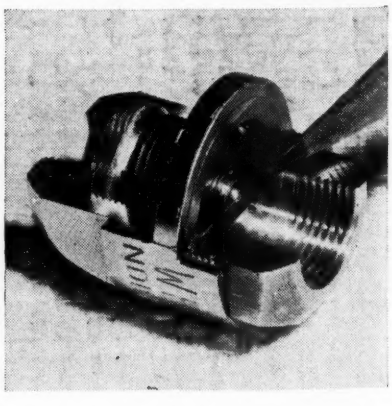
Design of the boiler, fired with a gun



type oilburner, includes features that enable it to supply two-temperature boiler water without complicated controls. Low temperature water is available for the radiant coils; high temperature water is furnished for year-around domestic hot water.

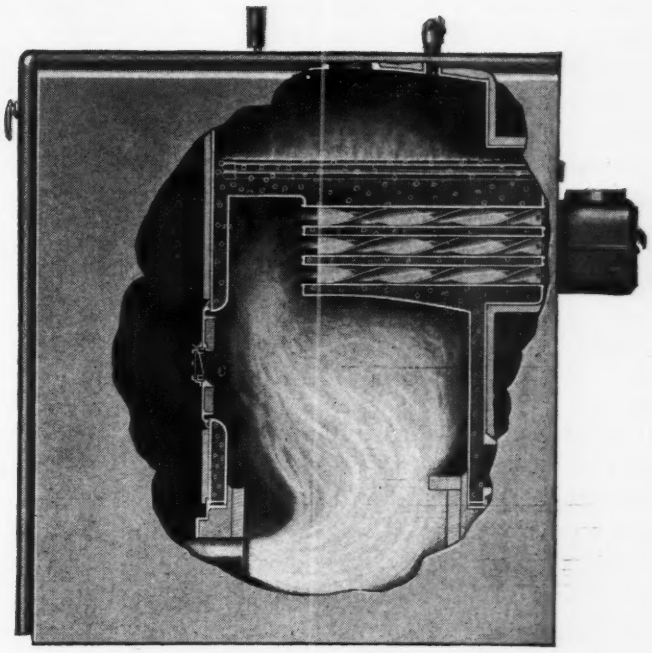
Honeywell Producing Dribble-Proof Oil Valve

A DRIBBLE-PROOF oil valve, designed to replace standard nozzle adapters, is be-



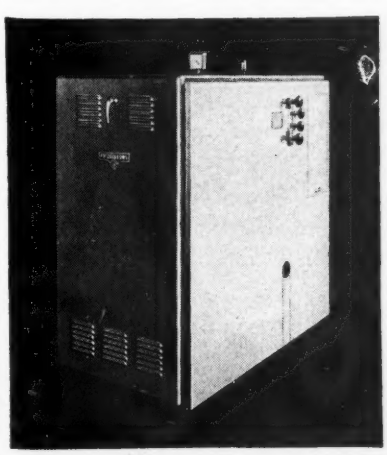
MORE *thorough combustion*

Generous furnace volume above the mud ring provides the space to thoroughly mix the oil and air for quiet and complete combustion. The famous FITZGIBBONS firebox design swirls the gases into contact with all of the heating surface thus assuring quick heat transfer. Rapid water circulation over and around the firebox absorbs the heat generated. Result—**high fuel economy and low flue gas temperature.**



The FAMOUS FITZGIBBONS "400"

THE ARISTOCRAT OF STEEL BOILERS • BUILT BY BOILERMAKERS IN A BOILER SHOP



IF YOU WANT THE FACTS

about this Fitzgibbons "400" Series steel boiler with its famous Tanksaver* coil, its A.S.M.E. Code steel construction, its hydrostatic test, its guaranteed SBI rating, and the reputation of a boiler company in business since 1886, mail the coupon today for catalog.

*Reg. U.S. Pat. Off.

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MOST ECONOMICAL IN FUEL 1886 THE FITZGIBBONS BOILER Reg. U.S. Pat. Off.

Fitzgibbons Boiler Company, Inc.
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City: ..... Zone: ..... State: .....

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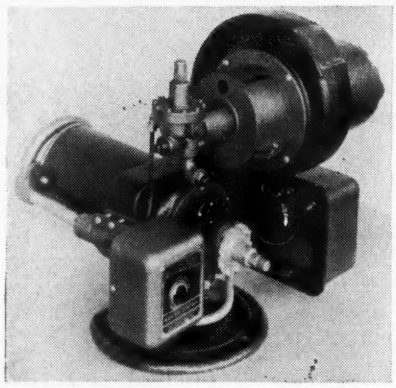
ing produced by Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. The valve is factory-adjusted to open at 85 lbs. pressure so that no oil enters the combustion chamber until enough air also is being delivered to properly atomize it. When the burner stops the valve snaps closed almost immediately to prevent dribble and after-burning.

The valve is about 1½" long and consists of a sealed bellows sensitive to pressure and a snap-action disk which opens and closes the fuel outlet port by means of a stainless steel ball. An oil strainer also is enclosed in the valve casting.

New Electrol Burner With Flame Shape Control

INCLUDED on a new burner announced by Electrol Burner Mfg. Co., Rutherford, N. J., is a device which provides complete control of the fire and permits instant, accurate adjustment. Results of tests already completed on the Master Air Compensator are cited to illustrate how it changes flame shape from the long narrow fire suitable to some boilers to the characteristic Electrol ball fire, and



assists in attaining quiet operation.

Installation of the device, it is pointed out, simplifies greatly the adjustment of flames which formerly was time consuming. The Master Air Compensator permits variation of the angular shape of the rotating air stream to compensate for narrow or wide spray nozzles. Electrol also has redesigned the burner foot and replaced it with a round, stable base that adds to the burner's compactness.

Thatcher Furnace No. 501 Is Hi-Boy Winter Air Conditioner

A NEW 501 Hi-Boy winter air conditioner has been announced by Thatcher Furnace Co., Garwood, N. J. It employs a flange-mounted, gun-type oil-burner and has an output of 70,000 Btu at the register. The compact unit measures 56" high, 23" wide and 25" long.

A front flue provides easy access to all controls and eliminates the need for

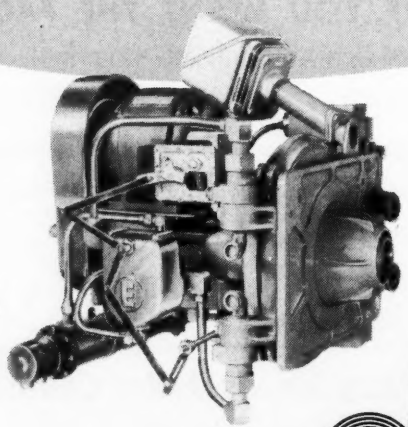
wide clearance around sides and rear of the unit. A front radiator and blower door is provided for easier cleaning, servicing and inspection. Other features of the factory assembled furnace are a prefired combustion chamber and a heavy gauge steel body and radiator.

ENTERPRISE

DEPENDABLE

horizontal rotary oil burners

Adaptable to efficient firing of both light and heavy oils, Enterprise Burners embody the most advanced design characteristics to be found in modern oil burners today. The outstanding success of thousands of Enterprise Burners, installed in virtually every type of heating application throughout the world, testifies to the quarter century of Enterprise engineering progress in combustion equipment. Write for full information, or contact your nearest Enterprise Distributor.



Enterprise V-Belt drive oil and combination oil-gas burners are built in 10 sizes. Capacities 4 to 200 gals. per hour; 12 to 650 boiler horsepower. Manual, semi-automatic and full automatic.

ENTERPRISE Oil Burners
The Choice of Heating Experts

BURNER DIVISION OF ENTERPRISE ENGINE & FOUNDRY COMPANY
18th & FLORIDA STS., SAN FRANCISCO 10, CALIFORNIA
Distributors in Principal Cities

HATS OFF!

... TO NEW ENGLAND

where dealers KNOW-

YORK-HEAT

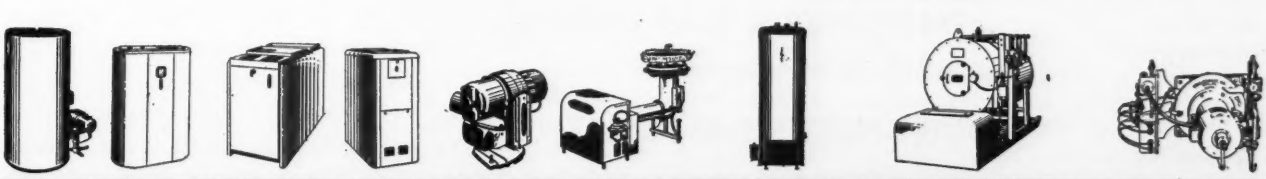
PRICELESS QUALITY - PERFECT COMFORT

HATS OFF — to the New England section of the O.H.I. for their progressiveness and for their leadership. And best wishes to them for the success of their annual convention and exhibit at the Hotel Statler, Boston, June 19-22. (While there, be sure to see our distributor's exhibit in Booths 52-56.)

HATS OFF — to our New England distributors for the way they merchandise York-Heat to the dealers throughout New England. They come no better.

And last—but most importantly—**HATS OFF** to our New England dealers—who, year after year, prove the wisdom of selling and installing York-Heat. And they make a profit, *too!*

P.S. To dealers everywhere—hats off for the real job you are doing selling automatic heat—but if you want the best—investigate York-Heat. A letter to York-Shipley, Inc., York, Pa. will bring you the complete facts on automatic York-Heat—the Longest Line—Strongest Franchise.



Boiler Units Oil & Gas Fired | Winter Air-Conditioners Oil & Gas Fired | Conversion Burners Oil & Gas Fired | Water Heaters Oil Fired | Steam-Pak Generators Oil and/or Gas Fired | York Power Industrial Oil Fired Burners

YORK-HEAT *Automatic Heat At Its Finest*

fueloil & oil heat

Reader's Problems

Q. I know I should look up your detailed articles I read on this some years ago, but it would be a great convenience to me if you would run in your ??? department a few paragraphs on attention needed for the typical gun oilburner, as considered apart from attention for the heating plant. Just what should a burner-smart home owner do, and what should he have an expert do each year?

W. P. H., Aurora, Illinois.

A. Here's just an idea, for as you know articles can be written on the subject.

As a burner-smart owner you might:

1. Keep the burner clean and handsome by wiping it off several times a year with a cloth.

2. Lubricate the two motor bearings two or three times a year. While in general it is good to give each bearing about 20 drops of medium-body automobile engine oil each time oiling is needed (being careful to avoid over-oiling that oil-soaks a motor and causes trouble), it is best to obtain and follow specific lubrication instructions obtained from the manufacturer of the burner or motor.

3. Learn a little about the appearance of your flame when it is adjusted properly, and from time to time check the flame appearance. Call a service man if the flame becomes white and lean or rich and smoky, or if its appearance changes decidedly in any other way. Guide yourself also by the starting and running sounds of your burner. You might get to know the appearance of the gases coming from the top of the chimney with the burner running; if there's smoke, for example, call for service.

Once a year, call a service man and have him:

1. Tend to the burner's oil filter or strainer.

2. Remove the gun tube assembly, check the nozzle to make certain it is clean, check and adjust if necessary the spark points, and make certain the spark is strong and dependable.

3. Check operation of all controls.

4. Adjust for a clean, efficient flame.

5. Use combustion testing instruments and give you a written report of the readings.

A good service man will, in the course of his efforts to maintain excellent efficiencies, tell you if the burner needs a new nozzle or other parts in four or five years, and how often the flues of the boiler or furnace need cleaning. In fact, an owner's best bet lies in calling in a conscientious service expert once a year or so, asking to have time spent to keep the burner in excellent condition, and following to the letter the advice and instructions given by the service expert. A meticulous burner owner cannot by himself keep a burner in good condition; such an owner needs help about once a year from the best kind of burner expert.

1950 WILL BE BETTER THAN EVER!

RECORD PROFITS CAN BE YOURS BY SELLING THE YEAR 'ROUND QUIET-HEET LINE

More QUIET-HEET Oil Burners Are Sold Than Any Other Oil Burner In The World!

- **QUIET-HEET OIL BURNERS** —*Long Established As A Leader!*
- **QUIET-KOOL ROOM AIR-CONDITIONERS** —*Perfect for Spring Pick up in Sales!*
- **QUIET-HEET ATMOSPHERIC GAS BURNER** —*Details to be released soon . . .*
- **QUIET-HEET SUMP PUMPS**

QUIET-HEET'S BETTER VALUES ARE YOUR BEST SALESMEN!

Inquire About Our Profitable Sales Offer Today!

QUIET-HEET MANUFACTURING CORPORATION
135 N. J. RAILROAD AVE., NEWARK 5, NEW JERSEY

Q. My own radiator vent valves cause the boiler to develop 20" vacuum in fall on starting the system. Later the vent valves fail. All winter no vacuum. Some hiss under boiler steam pressure. What causes this? Outline how to use chemicals to rejuvenate old vents acting this way, please?

E. D. C., Chicago.

A. Seemingly why the vent valves develop a high vacuum in fall but not later cannot be explained, and no information can be given on using chemicals to clean old vent valves. Probably the valves are more than 12 years old and the simple answer to your problem lies in replacing them with the best vent valves you can buy.

* * *

Q. In discussing fine points of pressure burners, theorists usually point out the nozzle output is greater with the burner stone cold, just starting, than after running a few minutes. Around 10% higher gph rate for the cold start often is conceded, but I've heard of what I think are exceptional tests of smallest nozzles which showed the starting gph rate higher by 25% than the running rate with the nozzle warm.

I ask if there's any great harm in this when a cold furnace shows a low stack temperature anyhow, being better at absorbing heat when cold than when hot, later. Using suitable instant-acting means to measure stack temperature, I point out, for the first three minutes of running a cold furnace I have read a maximum flue gas temperature of 392° F. from a light steel furnace that peaked at 538° F. after two hours of steady burner operation. A heavier, cast-iron air furnace or a steam or hot water boiler would start by a still lower margin as its true three-minute stack reading.

D. N. F., Schenectady, N. Y.

A. The disadvantage of the nozzle output's being 10% higher for starting than for running lies mainly in the resultant upset of the oil-air ratio of the flame for starting; the starting CO_2 would be slightly higher than the running CO_2; occurring at a time when the firebox and chimney are cold this might lead to a higher smoke reading for the first few minutes and the increased smoke and flue sooting tendencies that might come with this. As you point out accurately, the stack temperature is not high for the first few minutes of running as a result of the nozzle's giving a higher gph rate when cold than when hot.

* * *

Q. Do some draft regulators waste oil by removing great amounts of hot air from basements, made up by cold air leaking in?

P. A. M., Philadelphia.

A. While an argument can be based on what you indicate, especially under circumstances notably exceptional, yet almost all authorities on oilburners agree that typical installations need draft regulators because these save oil by maintaining the proper overfire draft. To rid a swinging disc draft regulator of a tendency to remain nearly wide open at all times with resultant excessive ventilation of the basement, use firebrick to block somewhat the smokepipe between the draft regulator and the chimney. Cause the regulator to open only slightly.

FYRITE
Combustion Testing
UTILITY KIT

Pacemaker For Profits from Expert Heating Service

Making the most of your ability to do an expert tune-up job will pay you big dividends in gaining you competitive leadership and neighborhood recognition of your competence as a heating expert. The combustion-testing kit shown here contains precision-made quality instruments with which you can make fullest use of your know-how in making a fuel conservation survey, checking a burner for wornout parts and needed repairs, or running an efficiency test to close a replacement deal.

The kit contains the well-known FYRITE CO_2 Indicator, the versatile MZF Draft Gauge, the all-metal TEMPOINT Stack Thermometer and the sensationally new TRUE-SPOT Smoke Tester. Now, for the first time you can adjust an oil burner quickly and expertly for highest CO_2 without objectionable smoke . . . do away with guesswork, and "hit and miss" fumbling in adjusting for clean firing. The "Scale of Soot" which comes with the TRUE-SPOT tells you the limits of permissible smoke for various burners and types of heating systems. This amazingly simple method of oil burner adjustment is the greatest advance in combustion testing since the introduction of the FYRITE. You will be proud to be among the first to own this "up-to-the-minute" combustion-testing kit.

Ask your Jobber for the FYRITE Utility Kit or write for Bulletin 777

BACHARACH INDUSTRIAL INSTRUMENT CO.

7000 BENNETT STREET • PITTSBURGH 8, PA.

Industry Groups

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Groups' activities to reach the editor by the 18th.

Steel Boiler Institute Meets At Absecon, N. J. on June 13

THE ANNUAL MEETING of the Steel Boiler Institute, Inc., Philadelphia, Pa., is being held at the Seaview Country Club, Absecon, N. J., on June 13. Purpose of the meeting has been announced to elect three directors and transact such other business as comes before the meeting.

Committee meetings were scheduled for Sunday and Monday, June 11 and 12.

Atlantic Coast Conference Adds Fletcher Rogers to Staff

FLETCHER ROGERS, formerly national field director of the Fred Eldean Organization in its handling of the public relations program for the Oil Industry Information Committee, has joined the Atlantic Coast Oil Conference, New York.

Rogers is to handle field work in connection with the oil heat promotional campaign of the Conference, calling on local groups in various eastern cities to enlist their participation.

Kirk B. Shivell, Inc., advertising agency, has been retained by the Conference to handle the study and development of promotional material and media.

In an announcement by Harry Hilts, Conference secretary, it is explained that the campaign was set up after conferences with more than 50 associations along the East Coast, and is based on long range study and research.

Basically, the program contemplates market studies of individual cities and areas to guide suitable local oilheating promotional programs, to be followed by assistance in planning and financing these individual city efforts.

FUEL COSTS GREATLY REDUCED

...SAY OWNERS

"—Our heating costs have been appreciably reduced in comparison with previous coal operations in our 24-apartment building—total yearly savings $1,077.25. On the basis of such savings, we have installed a total of six Hev-E-Oil burners and are obtaining a worthwhile fuel saving in all of them. We are quite pleased with the freedom from mechanical breakdowns of these units."

•

"—very pleased with the performance and economy, as well as quietness in operation—operating cost of oil burner is $145 for twelve months heating the building and domestic hot water—previous expense coal firing by hand was $165 for heating the building only."

•

"—very much impressed with your 50 per cent saving by burning No. 5 fuel oil — previous oil burner installation burned a standard No. 3 oil."

•

"—have had very good satisfaction—the upkeep expense almost negligible—heartily recommend this burner."

•

"—The burner has worked perfectly and quietly—we have enjoyed the most economical heating season I have experienced in this building."

Show Cost-Conscious Commercial and Industrial Oil Burner Users How to Cut Costs With an Economically Operating

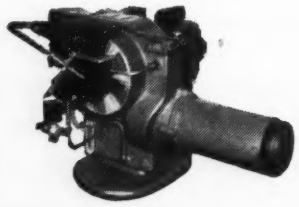
Cleaver-Brooks

HEV-E-OIL BURNER

USING LOW-COST NO. 5 OIL

Quick sales and profits are yours when you offer your customers and prospects a chance to cut operating costs using low-cost, high heat value No. 5 fuel oil.

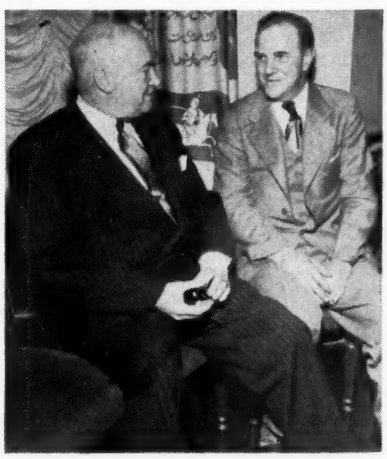
The economically operating Cleaver-Brooks Hev-E-Oil Burner efficiently using low-cost No. 5 oil, assures substantial savings to hundreds of commercial and industrial oil-burner users in stores, factories, green houses, apartments, small laundries, cleaners, dyers, pressers, and processing establishments of all kinds.



Write today—for complete dealer and distributor information.

CLEAVER-BROOKS COMPANY

363 E. Keefe Ave., Milwaukee 12, Wis.



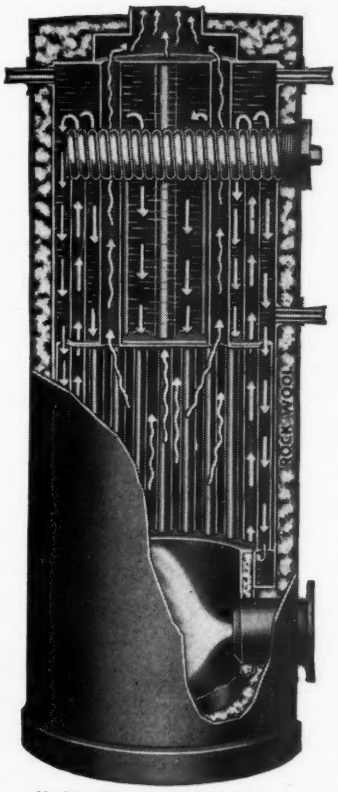
W. Chalmers Burns, *left, president, Hartol Petroleum Corp. and vice chairman, New York-New Jersey Oil Industry Information Committee District, was principal speaker at the New England annual meeting of the OIIC, held in Boston on April 12. Shown with Mr. Burns is Jarvis W. Brown, district manager, Socony-Vacuum Oil Co. and Connecticut State Chairman OIIC.*

Oil Industry Committee Plans for Oil Progress Week

DURING THE REGULAR MEETING of the Oil Industry Information Committee, American Petroleum Institute, New York 20, N. Y., held May 15, 16 and 17 at the Palmer House, Chicago, plans were reviewed for the celebration of Oil Prorgess Week next October. George Freyermuth, chairman of the committee, was chairman.

Shephard

OIL FIRED BOILER BURNER UNITS
DOMESTIC WATER HEATERS



Units For Radiant Heat

Featuring

The Original "Percolating" System

COMPARE THESE FEATURES

- ASME Code Construction
- Removable Screw Type Fittings
- Heavy Boiler Plate Construction
- Two Inch Rock Wool Insulation To Eliminate Stand By Loss
- Hydrostatic Tested—300 Lbs.
- All Copper Coil Tankless Heater For Domestic Hot Water
- Six Different Sizes
- Standard Size Fittings

Check Our Prices First Before Buying

Maybe You Qualify as an Exclusive Dealer or Jobber In Your Territory.

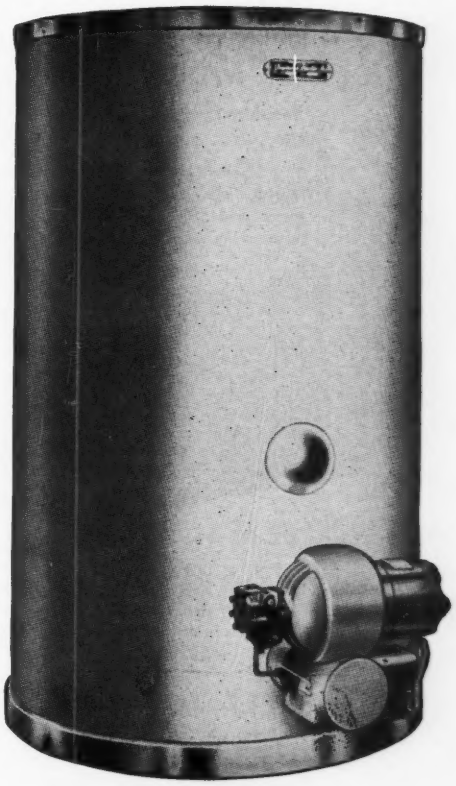
Make Your PROFITS for 1950 with the Shephard line of Boilers—Water Heaters—Burners

Write or Wire Today

Shephard Heater Co., Inc.

951 Sycamore St.

Terre Haute, Indiana



Accurate Answers
demand
Accurate Data

FOR PRECISE READINGS ON RELATIVE HUMIDITY and TEMPERATURE ... RELY ON BENDIX FRIEZ

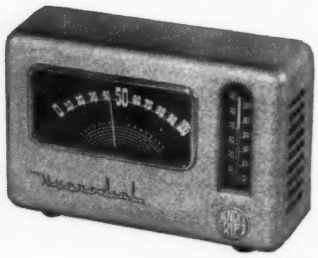
Accurate checking of heating and air conditioning installations is essential to proper operation. And proper operation is, in turn, essential to comfort in the home and peak efficiency in many industrial operations. Bendix-Friez precision instruments, built to U. S. Weather Bureau standards, furnish the exact information that both the customer and the contractor need. Write for complete information.

BENDIX-FRIEZ

MODEL 160

Portable Humidity and Temperature Recorder

3" x 5" charts, 10 or 30 hour records. Modern design . . . handy for small space and difficult locations . . . built to meet unusual conditions.



BENDIX-FRIEZ

Hygrodial

Precision Humidity and Temperature Indicator

Hair-operated and calibrated to professional standards of accuracy by the maker of the world's finest weather instruments. Handsome, modern case—4" high, 5½" wide, 1⅝" deep—desk or wall mounting.

FRIEZ INSTRUMENT DIVISION of

1322 Taylor Avenue
Baltimore 4, Maryland

Bendix AVIATION CORPORATION

Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

A late addition to the agenda was the formal presentation at a luncheon on May 17 of the Public Relations News Annual Achievement Award to the API and the committee. The Institute was named recently as one of the ten recipients of this award for distinguished accomplishments in 1949.

◈

Washington OHI Holds Annual Meeting

THE ANNUAL MEETING of the Oil Heat Institute of Greater Washington, Washington, D. C., was held May 16 at the Burlington Hotel. After the presentation of reports by the Managing Director, Chairman of the Board and Treasurer, the nominating committee presented six names, three of whom were to be elected to fill vacancies on the board of directors.

Of the six, the following three were elected: A. P. Brown, Rinaldi Coal Co.; C. A. Blinston, Colonial Fuel Oil and D. E. Wells, G. T. Wells & Son.

Managing Director A. Graham Shields reported that the Potomac Electric Power Co. has agreed to include with its June bills 215,000 inserts, carrying a message from the Institute. Attempts are being made to secure the same cooperation from the Virginia Electric & Power Co., covering the Virginia areas.

An offer of the Sinclair Refining Co. to allow the Institute $1,000 worth of radio time on its Station WMAL program was discussed. It was decided that the group's Public Relations Committee, which already has accepted the offer, should handle the matter.

Other subjects introduced included the newspaper advertising program the Institute is sponsoring. A schedule in three Washington newspapers has been arranged up to June 25, with an additional schedule to be drawn up beyond that date.

The Public Relations Committee also was instructed to prepare a tentative plan for a mass meeting of all employees to acquaint them with the facts of the present campaign the Institute is sponsoring and to instill in them the desire to sell the merits and advantages of oil heat.

fueloil & oil heat

BOOK SHELF

Here's 7 on it YOU May Have Missed

BEACON BOILER BOOK

Only complete, comprehensive boiler book. New and revised edition. Embraces ratings and specifications of every boiler built in U. S. Handy size, 8 by 11 inches.

$3.

VAPORIZING BURNER SERVICE

A compilation of articles from FUELOIL & OIL HEAT by a veteran service manager and an oilheating engineer. Gives important wrinkles and angles of servicing pot-type units. 32 pages, 8½ by 11 inches. Many diagrams.

$1.

THE SELLING MAN

Specialty salesmanship in our day with emphasis on burner selling by W. A. Matheson, of Eureka Williams Corp., long a leading figure in oilheating industry. Blue cloth binding, 6 by 9, 260 pages.

$5.

INSTALLING THE DOMESTIC OILBURNER

This is the first practical guide on oilburner installation. It contains the most significant articles from FUELOIL & OIL HEAT that cover all phases of installation step by step. It is 8½ by 11 inches and contains 64 pages. Illustrated with numerous diagrams, charts and photos.

$1.

BASIC SERVICE TEXT FOR PRESSURE TYPE BURNERS

This manual was prepared by G. T. Kaufman, technical secretary of the Oil Heat Institute of America, and is intended for basic training of installers and service men in residential oil-heating. It is also a useful reference source for those who have completed the training courses. A good, elementary book. Contains quiz questions to brush up with. Pocket size. 216 pages. Paper covers.

$2.

OILHEATING SNAGS

This book gives the solutions to many of the Everyday Snags that annoy you in installation and service. We've been working on them for years. They are all simple and practical answers to the most common goat-getters on jobs. It's an 8½ by 11 inch book of 64 pages.

$1.

OIL HEATING HANDBOOK

Revision of famous text by Han A. Kunitz giving complete data on all phases of oilheating. An indispensable guide to sellers and installers of equipment. Many illustrations, charts, diagrams and graphs. Lists types of service troubles and includes estimating tables. 456 pages.

$5.

Because of the thousands of small orders we receive we ask that cash, stamps, money orders or checks be sent with all orders.

FUELOIL & OIL HEAT
232 Madison Ave. New York 16, N. Y.

Because they're years ahead in steam generation . .

only

CYCLOTHERM *STEAM GENERATORS*

Trade Mark Reg.

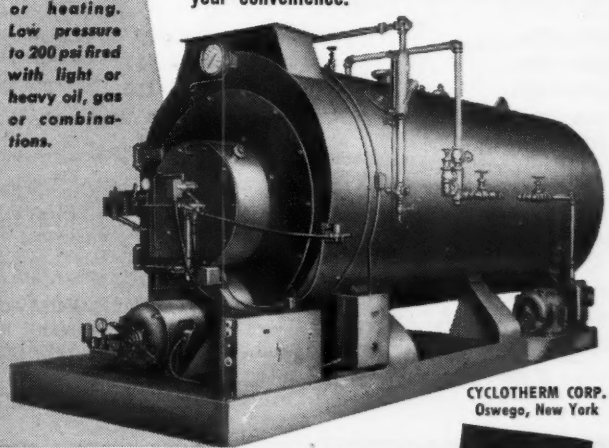
have cyclonic* combustion POWER

***WHAT IS IT?** It's the modern scientific discovery of transferring heat at the highest degree of efficiency with a new low in fuel consumption. Principal factors of which are the cylinderized solid flame with its exclusive cyclo-motion power, designed to utilize the full potential of every particle of fuel . . . and the thin layer of air resulting from centrifugal force that's always between the flame and wall of combustion chamber. A combination to produce steam far in excess of conventional standards for measured heating surfaces.

SEND FOR *ALL* THE BIG REASONS

Learn how the completely automatic Cyclotherm with its unexcelled all-in-one package type features wipe out waste and excess costs. If you are planning a new or replacement boiler installation it will pay you to first get the facts on Cyclotherm. The coupon below is for your convenience.

***SIZES** available to fit your steam or water load for processing or heating. Low pressure to 200 psi fired with light or heavy oil, gas or combinations.*



CYCLOTHERM CORP.
Oswego, New York

CYCLOTHERM CORP., OSWEGO, N. Y.

Gentlemen: Please send me bulletin H-1 showing the advantages of Cyclotherm's new concept in Heat Transfer. Without obligation, of course. Dept. FO-6

NAME .....

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CITY ..... ZONE ..... STATE .....

NEW - - -

HARVEY OIL FILTER ELEMENT PACKAGE

Saves 10%

The Harvey Filter Element Package #126 not only saves 10% on the cost of the elements—but it SAVES ITS ENTIRE COST, everytime it eliminates an unnecessary trip back to the shop (when you add up all the costs you'll agree we're right). Harvey Package #126 contains a balanced assortment of

20 POPULAR FILTER ELEMENTS

complete with all necessary gaskets. Each one packed in individual containers (except Fulflo & Delco) in one sturdy carton. Here's the assortment:

5 Fulflo RF-4	3 General 1A-30	1 Firomatic RC-20
1 Fulflo RF-6	2 General 2A-311	1 Firomatic RC-30
1 Fulflo 1026	1 General 2A-710	1 Cuno 22 30-F1
1 Delco, A, PB Screen	1 Esso-Gilbarco OF-1	1 Fram C-120 3
	1 Harvey XR1	

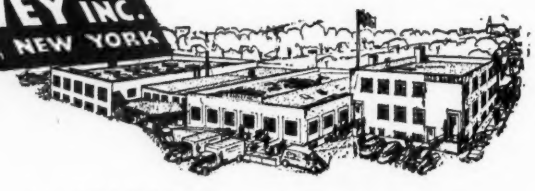
DON'T GET STUCK because you don't have the right element. Stock every service car with a Harvey Package #126 NOW. The cost is only $12.98. The oil filter element is a very small, but vitally important part of every clean up job. PLAY SAFE.

ALWAYS IN STOCK

SID HARVEY CARRIES FOR PICK-UP ORDERS, AND SAME-DAY SHIPMENT A COMPLETE STOCK OF ALL ACCEPTED BRANDS OF OIL FILTERS AND ELEMENTS.

Write for Catalog

SID HARVEY INC.
VALLEY STREAM, NEW YORK



11 BRANCHES

JAMAICA, N. Y.
BOSTON, MASS.
NEWARK, N. J.
BALTIMORE, MD.
NEW ROCHELLE, N. Y.
PHILADELPHIA, PA.
WEST PHILADELPHIA, PA.
HIGHLAND, N. J.
BRIDGEPORT, CONN.
WASHINGTON, D. C.
UNION CITY, N. J.

AND AT LEADING JOBBERS EVERYWHERE.

Massachusetts Oil Heating Dealers Elect Slate of Officers

THE REGULAR MONTHLY MEETING of the Massachusetts Oil Heating Association, Inc., Watertown 72, Mass., held at the Lafayette Hotel, Boston, May 16, featured a talk on "Chemical Cleaning of Boilers." M. Sorenson, Dowell, Inc., Boston subsidiary of Dow Chemical Co., delivered the address and stressed boiler cleaning as a service the industry has not capitalized on from a goodwill or profit standpoint.

During the meeting, Honorary Secretary-Treasurer F. N. Beckwith rendered an up-to-date report on the progress of preparations for the Exposition of Oil Heat, sponsored by the Oil Heat Institute of New England, to be held in Boston's Hotel Statler, June 19 to 22.

This being the final meeting in May, under the By-laws of the group, a nominating committee presents to it its selections for officers and directors for the coming year. Fred Beckwith was chairman of the committee, Max Seltzer and Orodon Hobbs, members. They presented the following slate:

James DeWolfe, General Heat & Appliance Co., for president; Lester Godwin, General Oil Co., for vice-president and Fred W. Heaney, Buckley & Scott Utilities, Inc., for secretary-treasurer. The following seven directors were named as additions to the board: Norman Crew, Carney-Young Utilities, Boston; Mahlon W. Walker, Godfrey Fuel Co., Milton; M. E. Bushnell, Bushnell & Chase, Brighton; Leo W. Vincent, W. H. Riley & Sons, Attleboro; Joseph Hallinan, Hallinan Bros., Medford; Winfield Scott, Scott-Williams, Quincy; Earl Brown, Brockton Oil Heat, Brockton.

ICHAM Meets in Cincinnati At Eighteenth Annual Convention

THE EIGHTEENTH annual convention of the Institute of Cooking and Heating Appliance Manufacturers, Washington 8, D. C., was held June 5 to 7 at the Netherlands Plaza Hotel, Cincinnati, Ohio. The full three day program included meetings of all the Institute Divisions, annual meeting of the Institute, luncheons on June 5 and 6 and the president's reception and dinner on June 6. Seventy exhibitors of equipment, accessories and components maintained dis-

plays, which were open from 9:30 A.M. to 6:30 P.M. each day of the gathering.

The Oil Division Technical Section met at 10:00 A.M., June 5 and considered proposed military specifications for oilheaters and discussed the need for organizing a program of improved field service for vaporizing pot-type equipment. Other subjects on the agenda included the use of vaporizing pot-type equipment in F.H.A. projects, a supplementary report on the standardization of flow rates in oilheaters and a progress report on the burnability of fueloils.

The following day, June 6, Dean Olds presided at a meeting of the Oil Division, which opened with a review of the business situation, and included a report of the technical section, and a discussion of the need for improved training of field service personnel. A panel was conducted on the subject of "Advertising, merchandising and market analysis in the vaporizing pot-type oilburner industry." Panel members included Sheldon Coleman, executive vice president, The Coleman Co.; M. F. Cotes, executive vice president, Motor Wheel Corp.; Walter F. Muhlbach, director of distribution research, Florence Stove Co.

The Sleeve-Type Burner Division met on June 7, C. O. Slaby, presiding. Activities included appointment of a committee to define the policies and objectives of the Division, a review of sales trends during the last two years and predictions for 1950. The probable effects of an increased natural gas supply in New England on the sleeve type burner business was discussed.

NAFM Standards for Axial and Propeller Fans

BULLETIN 110, "Standards, Definition, Terms and Test Codes for Centrifugal, Axial and Propeller Fans," has been issued by the National Association of Fan Manufacturers, Inc., Detroit 26, Mich. Copies are available on request.

The bulletin includes all information previously published in four separate bulletins and incorporates new tables on size standards and illustrations of revised fan arrangements. Bulletin 110 covers the classification of air moving equipment, terms and definition in use by the fan industry and standard codes for air and sound measurements.

Sid Harvey's didn't sell more than 125,000

HARVEY NOZZLES

A year for Replacement, because they were

CHEAP!

Oil Burner Service organizations all over the country have standardized on Harvey Nozzles because they are ACCURATE — UNIFORM — DEPENDABLE

NO BETTER NOZZLES MADE REGARDLESS OF PRICE

Hollow Cone — Solid Cone — Every Spray Angle. EVERY SIZE from .75 to 12.00 gallons per hour. All packed in individual dust proof plastic containers.

HARVEY NOZZLE SERVICE PACKAGE No. 2 IN HANDY FITTED METAL BOX

CONTAINS IN ASSORTED SIZES, 25 Harvey Steel Nozles, 18 Nozzle Strainers, 6 Nozzle Adaptors, also Nozzle Brush and 2 combination Orifice Cleaners—a total of 268 combinations of sizes and angles to choose from — in every size from .75 to 12.00 g.p.h. in solid or hollow cone spray (please specify). Each nozzle sits in individual compartment. Famous for accuracy and value.

Write for prices.

11 BRANCHES

JAMAICA, N. Y.
BOSTON, MASS.
NEWARK, N. J.
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WEST PHILADELPHIA, PA.
HIGHLAND, N. J.
BRIDGEPORT, CONN.
WASHINGTON, D. C.
UNION CITY, N. J.

AND AT LEADING JOBBERS EVERYWHERE.

Boiler Sales Indicate Trend to Automatic Heating

STATISTICS on boiler sales from 1945 to 1949 released recently by the Institute of Boiler and Radiator Manufacturers indicate clearly a growth in public acceptance of automatic heating. In 1949, 67.3% of all boilers sold were automatically fired, as compared with only 28.9% in 1945. The figures for the intervening years were 45.1% in 1946; 57.4% in 1947 and 50% in 1948.

Washington Dealers Map Local Advertising Campaign

A PROJECTED ADVERTISING CAMPAIGN, being undertaken by the Oil Heat Institute of Greater Washington, Washington, D. C., calls for a total expenditure of $20,200. It contemplates the use of a little more than a half of the fund for newspaper advertising, $975 for direct mail, $3,630 for radio and $4,760 for television.

The newspaper program, extending from May 1 to December 1 has worked out a schedule of forty-five 600 line advertisements in Washington papers. These are to include a Sunday advertisement each week in the *Evening Star* and a Wednesday advertisement on alternate weeks in the *Times Herald* and *Washington Post*, alternating between the two. In addition four 600 line insertions each would be placed with the *Alexandria Gazette* and the *Arlington Daily News*. Six one-half page display advertisements in *Home Builders Monthly* complete the schedule.

For direct mail, three lots of 100,000 reprints, consisting of three different advertisements, are planned.

Radio advertising is confined to announcements on two morning programs. One on Station WRC, Bill Herson's program, calls for three announcements a week for 33½ weeks or a total of 100. The other schedule, planned for Station WMAL during Jim Gibbon's program, has arranged for 104 announcements.

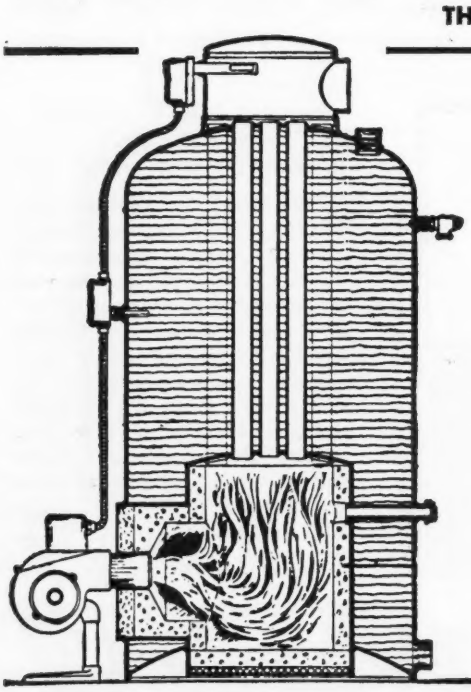
Sixty-eight one minute television announcements are scheduled as a minimum. These, according to present plans, would be spotted among stations to take advantage of the best times available. As frequency discounts are earned off the basic rate, the additional funds then could be used to purchase additional spots. It is expected that under this plan a Fall schedule of four or five one-minute television announcements each week will be possible.

National Tank Truck Institute Announces September Meeting

NATIONAL TRUCK TANK and Trailer Tank Institute, Chicago 3, Ill., has announced September 14 and 15 as the dates of its next meeting. The two day gathering will convene at The Northernaire, Three Lakes, Wisconsin.

J. P. Diepenbrock has been appointed district sales representative for the West Coast by Marlow Pumps, Ridgewood, N. J. Mr. Diepenbrock, formerly associated with Ingersoll Rand and Dow Chemical, will take charge of Marlow industrial pump sales in California, Oregon, Washington, Idaho, Nevada, Arizona, Western Montana and Utah.

THERE'S AN AQULUX MODEL AND SIZE FOR EVERY HOT WATER NEED!



This is the AQULUX 225-VS Model
Capacity: 270 g.p.h. at 100° Rise
225,000 B.T.U. output, 230 gal. Self Storage

AQULUX
WATER HEATERS

give you more gallons of Hot Water for every fuel dollar!

You can sell and install Aqulux Water Heaters with confidence that their performance will measure up to expectations. In private homes, factories and great public buildings all over the world, they have been given the acid-test of time under the most varied and difficult conditions.

Few heating units can match their dependability . . . and still fewer can equal their fuel-saving efficiency. If you have a water-heating problem, it will be well worth your time to check up on the superiority of these famous Aqulux Water Heaters. If you will tell us what you need, we will gladly furnish you with helpful detailed information.

Builders of fine Oil Burner Equipment since 1903

Johnson Oil Burners

S. T. JOHNSON CO.
940 Arlington Ave., Oakland 8, Calif.
401 No. Broad St., Philadelphia 8, Pa.

Manufacturers Activities

General Electric Establishes New Sales Division for Heating

A NEW SALES DIVISION in the marketing organization of General Electric's Air Conditioning Dept., Bloomfield, N. J., has been announced by Harold F. Smiddy, vice president of the company and department general manager. The new division completes the consolidation of automatic heating and cooling equipment responsibilities, and will be responsible for the sale and servicing of the Department's line, including both automatic heating and air conditioning units. Its activities will direct sales to large contractors, industrial and direct accounts, distribution sales at wholesale and retail and parts sales and product service.

H. M. Brundage, manager of the former automatic heating division, has been appointed manager of the new division; Harry J. Wines, formerly manager of automatic heating sales, has been named manager of distribution sales. The responsibilities of J. D. Hoffman, manager of direct sales, and L. E. Thompson, manager of parts sales and product service, have been extended to include heating equipment as well as cooling lines.

The field organization of the department also has been changed to provide for the setting up of four regional offices in New York, Chicago, New Orleans and San Francisco. Appointments of regional managers and addresses of the regional offices will be announced shortly.

Timken Offers Bermuda Cruise to Contest Winners

A SIX-DAY all-expense cruise to Bermuda aboard the Queen of Bermuda will reward winners in this year's annual Sellabration Contest for dealers and salesmen, sponsored by the Timken Silent Automatic Div., Timken Detroit-Axle Co., Jackson, Mich. Awards will be made to all who sell their contest quotas of coal, gas and oilheating equipment. The current contest, now under way, will continue until Fall, with arrangements already made for the cruise party to sail from New York on November

Sheared to Size for Your COMBUSTION CHAMBERS!

Have your Engineering Department check your percentage of scrap saving!

We are specialists in producing heat-resistant stainless steels for combustion chambers. Whether you are a large or small user of these steels our steel-making facilities can offer exceptional service by especially shearing to your specified combustion chamber steel blanks, or multiples thereof.

Ingersoll

HEAT-RESISTANT STAINLESS STEELS

Give your combustion chambers all four operating advantages

1. MORE QUIET BURNER OPERATION
2. CLEANER HEAT
3. BETTER TEMPERATURE CONTROL
4. CONSIDERABLE SAVINGS ON FUEL COSTS

Write for additional information

Ingersoll STEEL DIVISION
BORG-WARNER CORPORATION
310 South Michigan Avenue • Chicago 4, Illinois
Plants: Chicago, Illinois • New Castle, Indiana • Kalamazoo, Michigan

ENGINEERING B-W PRODUCTION

FRAM
FUEL OIL
FILTERS

Reduce Nuisance Calls—Boost Profits on Service Contracts

Cutaway view FRAM F1210

Filters the oil clean through an entirely new development • Removes dirt, rust, scale, water • Assures steady flow of clean oil to the burner • Protects pump valves and nozzles • Reduces service expense and needless, troublesome calls • Easy to install • Replacement cartridge builds repeat profits • Available in capacities of 2000, 4000, 6000 gallons of oil consumed per year. Send for complete details. Find out how you can profit with Fram.

FRAM FILTERS

MAIL COUPON NOW

FRAM CORPORATION
Providence 16, R. I.

Please send me complete details about Fram Fuel Oil Filters for Oil Heating.

NAME_____

COMPANY_____

ADDRESS_____

11 and return November 17, with nearly three days in Bermuda. Plans include social functions and entertainment on shipboard and on the island.

T. A. Crawford, general manager of the Division, describes this year's trip as surpassing prizes awarded in any of the previous contests the company has run during the past twenty years. First of all, he pointed out, this is Timken's Silver Anniversary year, but more important, he continued, ". . . is that all indications point to a record sales year. We want to make it as big as possible and know from experience that the Sellabration Contest is one of our most effective sales stimulants."

Perfection Expands Warehouses, Increases Some Prices

TWENTY-THREE warehouses in twenty states now are being maintained by Perfection Stove Co., Cleveland 4, Ohio, according to a recent announcement. This is more than three times the number in existence at the end of the war. During the past three years, the company has established warehouses in Charlotte, N. C.; Jacksonville, Fla.; Memphis, Tenn.; Spokane, Wash.; Louisville, Ky.; Richmond, Va.; Baltimore, Md.; Boston, Mass.; Utica, N. Y.; Dallas, Tex.; Los Angeles, Cal.; Omaha, Neb.; Denver, Colo.; Houston, Tex.; Portland, Ore. and Honolulu, T. H.

These are in addition to warehouses and district sales offices located at Cleveland, Chicago, St. Paul, Kansas City, Atlanta, Jersey City and Oakland, Cal.

D. S. Smith, Perfection's executive vice-president, cited the increased costs of coal, steel and other manufacturing items as reasons for moderate increases in product prices announced about the middle of April. The increases apply to gas and oil furnaces, as well as other products in the line.

Two Complete Catalogs Announced by Fitzgibbons

DISTRIBUTION of two complete catalogs has been announced by Fitzgibbons Boiler Co., Inc., New York 17, N. Y. The first is a 12-page reprint of the complete catalog insert in Sweets Architectural Catalog; the second an 8-page folder on Fitzgibbons gasfired boilers.

Both are 8½ x 11 booklets, illustrated with line drawings, photographs, catalog material and engineering data.

American Furnace Company Completes Plant Addition

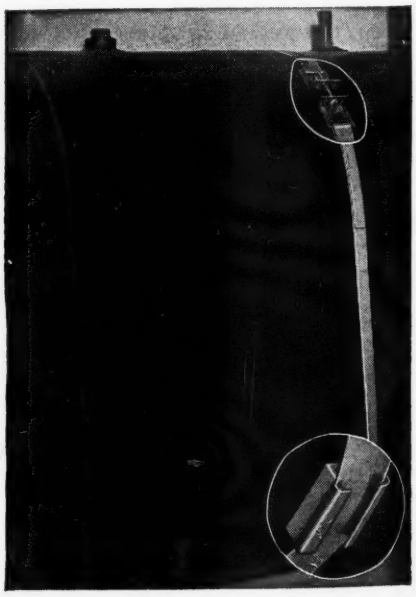
A COMPLETED CONSTRUCTION PROGRAM at the American Furnace Co. plant in Red Bud, Ill., marks the third enlargement of production and storage facilities made since the war and brings the total area of the plant to 103,000 sq. ft. General offices and warehouse space are in St. Louis. The Red Bud addition represents more than 100% enlargement in total properties since the end of 1945.

Additional expansion plans include

USE

*TANKIT

An emergency kit to stop a leak in an inside fuel oil tank instantly. IS TO BE USED FOR TEMPORARY RELIEF until such time as the fuel is consumed and the tank replaced. TANKIT is then to be put back in container for future use.



*Reg. *Pat. Pend.

NEW LOW PRICES!

1-2 $3.00
3-11 $2.75
12 or more $2.50

WRITE FOR YOUR NEAREST DISTRIBUTOR

TANKIT CO.
Cedarhurst, New York

hit your sales target with this B-B* gun!

*Boiler-Burner unit

fired by the

Here's the complete Quiet May "package" that generates plenty of heat and hot water for your customers... plenty of profits for you! Write for specifications, performance data and franchise details.

OHI

QUIET MAY OIL BURNER

MAY OIL BURNER Division of Gerotor May Corporation
P. O. Box 86, Baltimore 3, Maryland

*Pat. Pend.

fueloil & oil heat

YOU'LL FIND IT PAYS

KEEP FUEL CUSTOMERS HAPPY

with a Summer Clean-up the G-E way

General Electric ENGINEERING—America's buy-word for efficiency — gives you the MODERN Furnace and Boiler Cleaner—a powerful, easy-to-handle unit that does the job fast, thoroughly and economically.

This superior, high-vacuum machine (1 full h.p.; 43" water lift; weight only 51 lbs.) will make a hit with your clean-up crews . . . step up their productiveness . . . bring *you* more satisfied customers . . . more clean-up jobs to bill.

The model AVI-F908 G-E Furnace and Boiler Cleaner, which comes with special furnace cleaning attachments, provides both SUCTION and BLOWING. Power unit can be lifted from tank and converted into a powerful blower by removing bag and substituting coupling and guard.

You'll also find the SPECIAL G-E CHIMNEY-CLEANING SET brings down the chimney soot and gets it into the machine with a minimum of muss and fuss. Revolving handle and vacuum hose fit through special shield which keeps falling soot from escaping into cellar. Set includes Shield, Crank, Chimney Flue Brush, Duct Brush and eight 4-ft. extensions.

MAY WE **send you the new Illustrated Folder which tells more about MODERN furnace-cleaning equipment.**

Just mail coupon below

Furnace and Boiler Cleaners

GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY, Dept. 22-1622
1285 Boston Ave., Bridgeport 2, Conn.

Send me your new Folder on G-E Furnace and Boiler Cleaning Equipment.

NAME.....

FIRM.....

ADDRESS.....

CITY.....ZONE.....STATE.....

the immediate construction of an office and warehouse building in central St. Louis. Contracts have been signed for the project, with occupancy scheduled for the end of the year. The building will include 23,000 sq. ft. of warehouse space with modern freight handling and truck loading facilities, 14,000 sq. ft. devoted to administrative office and sales rooms. Also there will be room for product display, a modern testing and design laboratory, system engineering division and a 100 x 100 ft. off the street parking lot.

The American Furnace Co. is celebrating its Fiftieth Anniversary this year and is headed by President Clarence S. Franke, who also is president of the National Warm Air Heating & Air Conditioning Association.

Gorton Heating Representative Appointed; Bulletin Issued

ANNOUNCEMENT has been made of the appointment of General Heating Specialty Co., Kansas City 6, Mo., as sales representatives for Gorton vapor equalizing valves and air eliminators made by Gorton Heating Corp., Cranford, N. J. The firm, with offices at 10th & McGee Sts., will cover the western portion of Missouri and the eastern portion of Kansas.

Bulletin No. 119, also announced recently by the company, pictures and describes the No. 12 Gorton high pressure air eliminator used under steam pressure up to 150 lbs. Two views of the product illustrate its external appearance and interior construction, with accompanying copy detailing specifications and dimensions.

LYNN
POWER OIL BURNER

Spiral-Ex Head

A burner with a high-efficiency head

priced to meet competition . . . of comparable quality.

● The Lynn Burner is a quality product—built for long life and economical operation. The Spiral-Ex head, developed for burning 100% "cat" oils, is Lynn's exclusive design and a guarantee that Lynn will never become outmoded. The Lynn is easy to install, easy to service, adjustable under fire to correct mixture of oil and air. Five models—.65 to 15 G.P.H. You can make money with the Lynn Burner. You can build a Lynn franchise into a lasting and valuable asset—because Lynn has more downright sales appeal than any burner in its class at the price.

Write today *for information about distributor and dealer territory now open.*

LYNN PRODUCTS COMPANY
Box 531, Lynn, Massachusetts
Manufacturers of Oil Burners Since 1922

Perfex Controls Granted Good Housekeeping Seal

CONTROLS made by Perfex Corp., Milwaukee 7, Wis., have been granted the use of its seal of approval by *Good Housekeeping* magazine. Describing it as another recognition of Perfex' quality and engineering skill, the company explains that the seal is granted only after the magazine has checked the performance of the controls and the advertising claims made for them. The seal promises "Replacement or refund of money guaranteed by *Good Housekeeping* if not as advertised therein."

Wing Catalog Describes Turbine Driven Unit Heater

PUBLICATION of a new bulletin on the Wing turbine driven unit heater has been announced by L. J. Wing Mfg. Co., Linden, N. J. Complete details of design and construction, together with engineering data and dimensions on revolving and fixed discharge units are included, along with a table on mounting heights and coverage. Piping details also are shown.

A feature of the heater is the elimination of an electric motor for operating the fan.

Armstrong Wholesaler Named In Western Michigan

GRAND FURNACE CO., Grand Rapids, Mich., is wholesale distributor for the line of furnaces made by Armstrong Furnace Co., Columbus, Ohio. Robert A. Friestad is general manager of the Grand organization, whose operations will be conducted exclusively at the wholesale level. A complete line of accessories for warm air heating is to be stocked.

Do You Know

VIKING

Has the RIGHT Rotary Pump For Your Job?

Did you know you could easily have the right size and style of rotary pump for your job? When you select Viking, the size and style is not limited.

Viking . . . the original gear within a gear rotary . . . offers the most complete range in the entire rotary pump field.

Vikings are built to do your job *right*. There is no compromise. It will pay you to write for bulletin 50S EE today. Your problem has a right answer. Ask Viking for it. No obligation.

VIKING
AN HONORED NAME IN PUMPING

VIKING PUMP CO.
Cedar Falls, Iowa

See Our CATALOG IN SWEETS

You'll Profit More

WITH THIS *LOW COST*

ANCHOR

OIL BURNER

Here's an amazingly low cost oil burner that sells fast. It's the ideal conversion burner . . . easily adjustable to any installation . . . instantly installed . . . needs little space . . . and is *Trouble-Free*. You save your profit in fewer service calls. Once you install this ANCHOR OIL BURNER your job is done. It's an outstanding, efficient burner that gives maximum heat with minimum fuel . . . *it's an* ANCHOR. For More Sales . . . More Profits . . . write for complete information about ANCHOR OIL BURNERS and FURNACES: Dept. F-65, Anchor Division, Stratton & Terstegge Co., Inc., P. O. Box 311, New Albany, Ind.

BOILER AND FURNACE MANUFACTURERS' INQUIRIES INVITED

ANCHOR
America's Finest Heating Equipment

Faster **HEATING PAN**
Faster **VAPORIZATION**
UNBEATABLE HUMIDIFYING PERFORMANCE

THERMO - DRIP
AUTOMATIC
HUMIDIFIER

DRIP FEED PRINCIPLE
Does not spray or run. Water drips into pan through funneled orifice one drop at a time.

SUPER SENSITIVE THERMOSTAT
Starts or stops the flow of water according to bonnet temperature. Leaves only a thin film of water in pan.

EASY TO REGULATE
Outside screw adjuster permits fingertip control of water flow.

FLEXIBLE INSTALLATION
12 pan sizes are available.

Here's the first and only humidifier on the market that has every feature wanted. It is precision-built at every point for superior quality — not a production line job. Will fit every type warm air furnace. It installs quickly and easily, thus reducing high labor costs.

ONE KIT TO PURCHASE

All accessories are contained in one compact unit. Easily assembled — economical to use—quick to sell.

COMPARE THESE SUPERIOR PERFORMANCE FEATURES

- New, improved, air-tight valve orifice has positive seating action.
- No electrolytic action.
- No clogging.
- Easy to clean and service.
- Less parts — simplified design.
- No stagnant pool of water left in pan — no scum.
- Immediate vaporization.
- Easy, flexible installation.

WRITE TODAY FOR *FREE* LITERATURE
DEPT. FO-60

AUTOMATIC HUMIDIFIER COMPANY
Cedar Falls, Iowa

General Filters Doubles Size of Manufacturing Plant

COMPLETION and occupancy of a new addition to the plant of General Filters, Inc., Detroit, Mich., doubles the size of previous facilities and is the second building program the company has completed since the war. All of the space provided by the new addition will be devoted to manufacturing and shipping. Installed when the new addition was being built was a completely sealed off paint spray booth.

In addition, the enlarged space will permit building of a new engineering department and enlargement of the general office facilities. Both projects are now under way.

American-Standard Gets New Research Laboratory

RESEARCH ACTIVITIES of the American Radiator & Standard Sanitary Corp., Pittsburgh, Pa., are to be located in a five story building in Louisville, Ky., just as soon as extensive alterations are completed. The building now houses a branch house of the company, which is to be moved to a new location. At the new research set-up both heating and plumbing research will be conducted. Heating research had been done previously at Yonkers, N. Y. and this laboratory and its staff will be moved to Louisville.

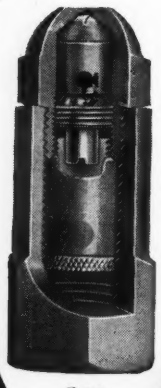
The research department of American-Standard studies design, composition of materials, durability, quality, resistance to corrosion and technical performance. On the heating side, the research is devoted particularly to a study of fuels and their efficiency in existing equipment, as well as redesign of such equipment to improve its usefulness.

MONARCH

TEST THE NOZZLE THAT'S TOPS IN DESIGN — COMPARE RESULTS!

MONARCH OIL NOZZLES

Most any nozzle will produce some kind of fire . . . but you won't know how really good your burner can be until you have tried Monarch Stainless Steel Nozzles —with spray characteristics matched to your air mixing equipment. Make a test yourself! Send us a sketch of burner or accurately describe air mixing head and we will recommend the proper Monarch Nozzles. Test— and Compare!



F-80

Monarch Combustion Head

The Monarch G-74 Head embodies an entirely new approach to efficient means for intimately mixing air with atomized oil to provide a highly efficient controlled flame.

Note these features:

1. Suitable for capacity sizes from .75 GPH to 2.50 GPH.
2. Simple to install and there is no "guess work" about the settings.
3. Price—Less than the cost of a good fuel unit.

Monarch Air Cones and Stabilizers

Numerous field tests on various well known makes of burners have proved Monarch equipment to be superior.

Pulsation can usually be overcome by using special stabilizers H-451 with standard F-57 cones and F-80-R 80° nozzles.

Write for new Circular No. 51849 on our "Anti-Pulsation" equipment.

Write for Catalog D

MONARCH MFG. WORKS, INC.

2503 E. ONTARIO ST.

PHILADELPHIA 34 PENNA.

European Distributor: A. Coutau, Rue de la Scie No. 16, Geneva, Switzerland

Gulf Honors Employees For Length of Service

THE ELEVENTH ANNUAL AWARD luncheon, held by Gulf Oil Corp. at the Waldorf-Astoria Hotel, New York, honored 235 employees of the New York Sales Division for having completed ten years or more of service with the company. E. Walso Emerson, general manager of the Division, presented scrolls and pins to honored employees. The pins were encrusted with a ruby for each five years and a diamond for each ten years of service. Of the group honored, 121 had twenty years or more of service.

H. A. Gidney, Gulf's executive vice president, told the group that 19,950 persons or 45% of the company's domestic personnel had completed ten years or more service. He paid tribute to the loyalty and productiveness of these employees, and, in particular, congratulated the New York Sales Division on its sale of 28 million barrels of petroleum products during 1949, representing about 20% of Gulf's total product sales.

Combustioneer Dealers At Preview of Oilburner Line

APRIL 4 was the date of an equipment preview held at its factory by the Combustioneer Div., Steel Products Eng. Co., Springfield, Ohio, to introduce its new line of oilburners and oilfired furnace units. More than one hundred Combustioneer dealers and their wives attended and were welcomed by Georges Roudanez, manager of the Division.

After the new line was unveiled to the tune of "Happy Days Are Here

ATLANTIC STEEL BOILERS

Scotch-Marine type, three-pass, wet base. Spiral baffles in the heavy-gauge, three-inch fire tubes assure the utmost in heat transfer. Firing chamber is entirely surrounded by water and contains a special high-temperature refractory combustion chamber. De Luxe jacket—attractive hammertone finish.

Sizes from 400 to 3840 sq. ft. steam; 640 to 6144 sq. ft. hot water, E.D.R.

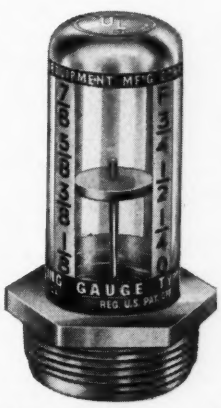
Write for full information today!

ATLANTIC STEEL BOILER COMPANY

S. W. CORNER
24th and BROWN STS.
PHILADELPHIA, PENNA.

935 YEARS* OF SERVICE!!!

THE GAUGE THAT "STOPPED THE SHOW" AT PHILADELPHIA



NO SPRINGS
NO GEARS
NO RIVETS

UNDERWRITERS' APPROVED

KING GAUGE

LEAK-PRUF — TROUBLE FREE

LOWEST PRICED APPROVED GAUGE ON THE MARKET
MADE FOR 26"-27" & 42"-44" 275 GAL. TANKS
1½" & 2" BUSHINGS INTERCHANGEABLE NO EXTRA COST

*BASED ON 10 FILL-UPS PER YEAR GAUGE MADE 9,350 COMPLETE ACTIONS DURING THE 1950 O.H.I. EXPOSITION AT PHILADELPHIA

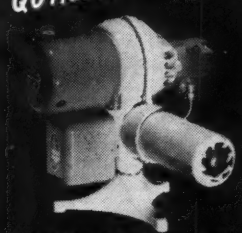
WRITE FOR OUR NEW 20 PAGE CATALOG

OIL EQUIPMENT MFG. CORP.

P. O. BOX 1533 NEW HAVEN, CONN.

WHAT DOES *Nu-Way* OFFER AN OIL BURNER DISTRIBUTOR?

QUALITY PRODUCT



Nu-Way Oil Burners are the result of over 29 years of experience in building oil heating equipment exclusively.

SALES FEATURES

Exclusive engineering features such as Patented Air Control and Patented Nozzle Shield plus many other features make Nu-Way Oil Burners easier to sell.

NATIONAL ADVERTISING

Nu-Way Oil Burners are backed by hard-hitting consumer advertising in Better Homes and Gardens, House and Garden, House Beautiful and American Home. Nu-Way ads also appear regularly in 7 leading trade publications.

SELLING AIDS

Nu-Way Distributors are provided with a wide variety of selling aids including newspaper mats, direct mail pieces, booklets and catalogs . . . all designed for a business-building sales program second to none.

FAIR POLICY

Distribution of Nu-Way Oil Burners has been and will continue to be through leading heating equipment distributors. Right now there are several openings for distributors interested in handling the profitable Nu-Way line.

OIL HEATING EQUIPMENT

THE *Nu-Way* CORPORATION
Rock Island, Illinois

Write Today Write for the new folder containing complete details on the Nu-Way line of Oil Burners.

Clip this Coupon -- **FILL IN -- MAIL TODAY!**

The Nu-Way Corporation, Dept. 7-P
ROCK ISLAND, ILLINOIS

I'M INTERESTED . . . in the profitable Nu-Way Distribution Plan. Rush me complete details.

Name _____

Firm Name _____

Address _____

City _____ Zone _____ State _____

fueloil & oil heat

KRAISSL

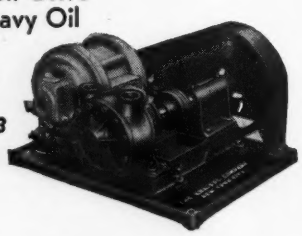
PUMPS AND SEPARATORS
FOR OIL BURNER SERVICE

CLASS 50 LIGHT OIL PUMPS
Direct Drive For
#1 to #5 Oils Inclusive

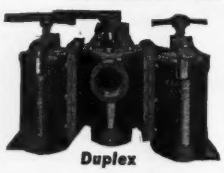
Ask For Bulletin A-1330

CLASS 60 HEAVY OIL PUMPS
Reduction Drive
For Heavy Oil

Ask For Bulletin No. A-1193



CLASS 72 STRAINERS—FILTERS
Single and Duplex
Standard and High Pressure
Baskets instantly and easily changed
— eliminates filter replacement costs entirely.



Duplex

Ask For Bulletin No. A-1214

Single

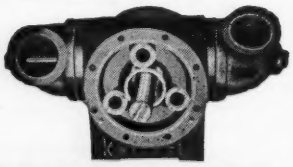
FOR BULK STATION SERVICE

CLASS 60M MOTORED PUMPS
Direct Drive
For Exclusive Use With
Light Oils and Solvents

Ask For Bulletin No. A-1267

CLASS 80 TRI-ROL PUMPS
Interchangeable Service
Both Light and Heavy Oils
Tank Truck and Bulk Station

Ask For Bulletin No. A-1366



KRAISSL CO. Inc.
295 WILLIAMS AVE., HACKENSACK, N. J.

Again," C. P. Meredith, executive vice president, Steel Products Eng. Co., described the company facilities in engineering and equipment that were utilized in developing the new line. Demonstrations of the burners and furnaces followed.

The program included a tour of the factory, with luncheon and dinner served at the Shawnee Hotel.

Super Electric Catalog On Control Transformers

A LINE of control transformers, offered by Super Electric Products Corp., Newark 5, N. J., is discussed in a preliminary catalog issued. The double wound control transformers are designed for use whenever a voltage lower than line voltage is required, for magnetic switches, thermostat controlled devices, solenoids, air conditioning and heating controls and similar applications.

Catalog CST 2-50 includes a variety of standard mountings, terminal arrangements and winding diagrams, with accompanying tables listing electrical specifications, dimensions and list prices.

Burke Company Represents Kewanee in Harrisburg, Pa.

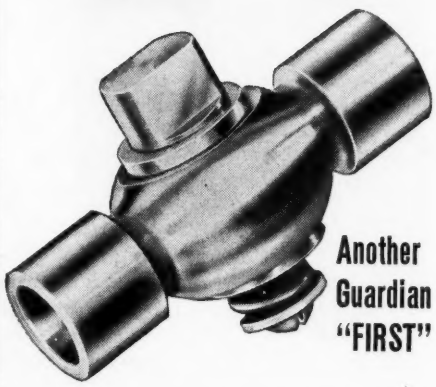
SINCE APRIL 1 the Thomas F. Burke Co., Harrisburg, Pa., has been representative for the Kewanee Boiler Corp., Kewanee, Ill. The territory consists of the following Pennsylvania counties: Perry, Dauphin, Lebanon, Cumberland, Lancaster, Franklin, Juniata, Mifflin, Snyder, York and Adams.

Webster Electric Appoints California Service Station

ELECTRIC COMMUNICATIONS, INC., San Francisco 3, Calif., has been appointed an authorized service station for northern California by Webster Electric Co., Racine, Wis. The operation will include sales and service of Webster fuel units, ignition transformers and Thermodrive warm air controls.

At about the same time, L. S. Erich, Jr., Webster service manager, conducted a meeting at the headquarters of Charles A. Black, Spokane, Wash., for heating dealers. Messrs. Erich, Black and Paul Maurice, Webster Electric western representative, discussed new features of Webster fuel units and transformers.

2 in 1



Another Guardian "FIRST"

Both BALANCING and BLEEDING CONTROL
with the NEW No. 2100
Guardian
RADIANT HEAT VALVE

Here's the Radiant Heat Valve you've been looking for! Guardian's new #2100 Valve is especially designed to serve in a dual capacity in panel heating installations as a balancing and as a bleeding control valve. Installed in a header in the boiler room no other fittings are required for these operations.

The Guardian Radiant Heat Valve is machined of extruded bar stock with metal-to-metal seating. No packing is required, so there is no leakage due to expansion and contraction. The valve need not be disassembled for installation since there is nothing to be damaged by heat of soldering. There is a full size waterway and regulation is variable from full open to complete shut-off which enables the Guardian Valve to be used for bleeding air from the system. Manufactured in 3/8" and 1/2" pipe ends for soldered connection.

Write for full details and typical installation diagram given in Bulletin V 103.

To be sure you get Guardian quality look for the name GUARDIAN stamped on the body of the valve. All Guardian Valves are Guaranteed Valves.

Guardian
PRODUCTS CORP.
VALVE DIVISION
Dept. F5, 1215 E. Second St., Michigan City, Ind.
Michigan City, Indiana

Sun-Ray Burner Names Maine Distributor

COMMUNITY OIL CO., Portland, Me., has been designated exclusive distributor by Sun-Ray Burner Mfg. Corp., Jamaica, N. Y. The firm will operate in southern Maine up to a line across Rumford, Augusta and Rockland.

Community Oil is operated by Fred Foley, president, with Fred Foley, Jr., in charge of the burner division and Jack Vail in charge of the heating department. Sun-Ray's complete line, including the model "S" Shell-Head burner, will be displayed and full cooperation on sales, engineering and service will be available to dealers.

Alstrom's New Plant Increases Production

GREATLY INCREASED production facilities are provided for in the new quarters of Alstrom Corp. at 790 East 176th St., Bronx, N. Y., whose line includes the Vacuumatic tankless water heater.

Of reinforced concrete, fireproof construction the building is capable of withstanding the extreme floor loads imposed by heavy machinery and tons of copper. The plant layout was designed by the Alstrom engineering staff, under the direction of S. W. Hennessey, Jr.

◈

Roy C. Ingersoll, previously vice president, was elected to succeed *C. S. Davis* as president, Borg-Warner Corp., Chicago 4, Ill. Mr. Davis was elected to the newly-created office of chairman of the board. *G. A. Shallberg,* previously executive vice president, becomes chairman of the executive committee. Both Mr. Davis and Mr. Shallberg will remain active in their new positions. Mr. Ingersoll, in addition to the duties of president, also assumes the duties formerly assigned to the office of the executive vice president. *A. P. Emmert,* Muncie, Ind., was named vice president, the last shift in the reorganization of top level executive staff.

Richard Edelen, a member of the Market Research Dept., Delco Appliance Div., General Motors Corp., Rochester 1, N. Y., has been appointed zone representative in Atlanta, Ga., to cover the states of Georgia and Alabama.

HAND IN HAND
Paracoil WATER HEATERS

Have been linked with PROFITS for the many thousands of jobbers stocking them and the contractors installing them—for they represent the best in proven design and service-free performance.

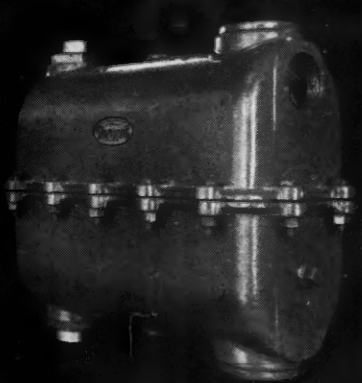
Every type and size available—for every type and size of installation!

- Type A—**Indirect Water Heaters**
- Type B—**Apartment House Heaters**
- Type C—**Submerged Tank Heaters**
- Type D—**Tankless Water Heaters** (Gravity Circulation)
- Type E—**Tankless Water Heaters** (Forced Circulation)
- Type I—**Instantaneous Water Heaters** (Steam Type)

Heating Elements for Storage Tanks
Convertors for Forced Hot Water or Radiant Heating Systems
Condensate Coolers • Flexible Nipples

A TYPICAL PARACOIL VALUE!

Type D Tankless Heater
Gravity Boiler Water Flow
3.5 and 5 G.P.M.— 40°F to 140°F
Boiler Water 180°F
All Copper Water Circuit—C.I. Shell
Low Pressure Drop—
Streamlined Design!



Write for Catalog Material and Prices!

DAVIS ENGINEERING
CORPORATION
1058 E. Grand St., Elizabeth 4, N. J. • 30 Rockefeller Plaza, New York 20, N. Y.

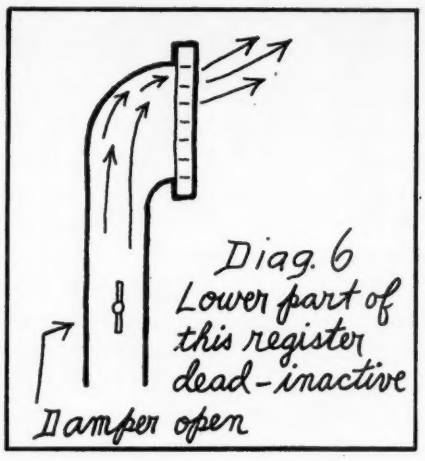
Forced Air Jobs

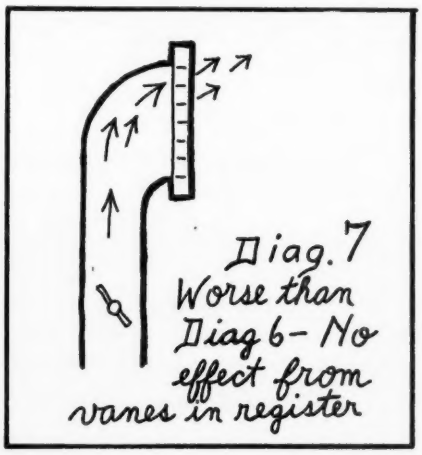
(*Continued from page 63*)

adaptability to real summer air conditioning; cooling by cold water or refrigeration, I mean.

"But of the three air-flow systems with merit, why can't the furnace industry agree one is best, adapt it as standard, and outlaw all others as not standard? Why can't we all standardize on a good air-flow plan and then benefit by learning a great deal more about it, later use it to even more advantage?"

The answer lies in the fact that, as one of the greatest authorities in air conditioning once said, we still have much to learn about supply and return register locations and performance. Of Diags. 3, 4, and 5, one well-posted engineer strenuously prefers one, while another good engineer says another is best by far. Still other arrangements may be preferred by other sound-thinking heating engineers. If right now we could eliminate the crime of installing the worst, cheapest arrangements, we probably would end 80% of the troubles that plague us today; that would be going far enough for the moment.





Diag. 6 warns against thinking that the air is well directed into a room by a vane type register of considerably greater free-air area than the duct that supplies it. The warm air should be directed properly into a room. A register should direct it properly not let it flow into the room as it would from a plain square or round opening, for example. But the register active only in the upper one-third of its area does not direct the air properly. Simple air-flow tests, made with proper instruments, quickly show up this fault on actual installations. Diag. 7 shows how the fault is increased by using a duct damper to decrease the output of a register.

In Diag. 8, the use of vanes at a turn, together with the use of a plate to reduce greatly the free-air opening of a register, gives the high air velocity needed to obtain "reach" from some registers. It's best to use registers with vanes adjustable for vertical and horizontal flow, where high velocity methods are in the design. The duct pressure must be relatively high. The pressure

Sales-making FIGURES FOR FUEL OIL DEALERS

In today's competitive market the dealer needs a sales story that's backed up by convincing facts and figures.

The sales figures on B&W Insulating Firebrick are real "convincers" for the dealer who installs better fireboxes made of B&W I.F.B.

Your prospects know they can't go wrong on fireboxes built with the B&W Refractories that—

1. **Save fuel due to more efficient combustion**
2. **Minimize odor, soot and smoke**
3. **Assure smoother, quieter burning**
4. **Respond quickly to thermostat demands**

And you, Mr. Dealer, can't go wrong on the refractories that minimize maintenance problems and nuisance calls for free-service.

Why not send for your copy of the B&W FIREBOX HANDBOOK? Find out how following the B&W method of firebox construction can lead to more sales for you.

R-299

B&W REFRACTORIES PRODUCTS

B&W 80 FIREBRICK • B&W JUNIOR FIREBRICK
B&W 80 GLASS TANK BLOCKS • B&W INSULATING FIREBRICK
B&W REFRACTORY CASTABLES, PLASTICS AND MORTARS

OTHER B&W PRODUCTS

Stationary & Marine Boilers and Component Equipment . . . Chemical Recovery Units . . . Seamless & Welded Tubes . . . Pulverizers . . . Fuel Burning Equipment . . . Pressure Vessels . . . Alloy Castings

BABCOCK & WILCOX

THE BABCOCK & WILCOX CO.
REFRACTORIES DIVISION
GENERAL OFFICES: 85 LIBERTY ST., NEW YORK 6, N.Y.
WORKS: AUGUSTA, GA.

STOCK NOW—for Summer Service Calls!

This Summer you will have your big opportunity to do suggestive selling. Every service call can mean the sale of a Klemm Fuel Oil Filter. This handsome unit will appeal to your customers and the clincher of uninterrupted service and pure clean oil will put extra profit in your pocket. Place an order with your jobber today and have your men carry one on every service call for easy sales.

Model 430G

Klemm

AUTOMOTIVE PRODUCTS CO.
1716 N. Damen Ave., Chicago 47, Ill.

*Model 430
Metal Bowl

Listed by Underwriters' Laboratories

CROWN your Installation with THE *GALONGAGE!*

Outstanding in its field, *Galongage* design, construction and appearance does credit to the finest heating installation. Because *Galongage* measures in gallons... has an easy-to-read magnifying lens... requires only 4-inch head clearance... comes fully assembled... is approved by Underwriters' Laboratory.

When ordering, specify depth of tank and size of opening.

APPLIED MECHANICS COMPANY
167 OLIVER STREET, BOSTON 10, MASSACHUSETTS

MAKE SURE OF FURNACE PROFITS WITH THE

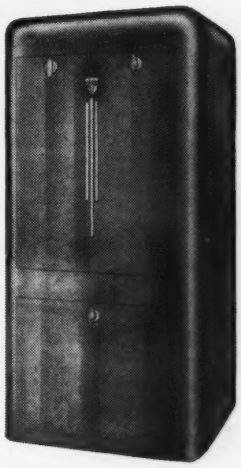
SILENT SIOUX

Winter Air-Conditioner PACKAGE

UNBEATABLE QUALITY—Silent Sioux's "anniversary line" of winter air conditioners are better than ever before; post-war quality . . . at pre-war prices! Equals that of your top quality competitor. Designed to heat the larger home, delivers 85,000 B.T.U. All-automatic operation from wall thermostat. Have air-conditioned heat at a constant, even temperature. Finished in gray hammertone.

UNBEATABLE PRICE — Comes complete as a "package" unit with burner, blower, belt, pulleys, limit control, fan switch, oil control, fused entrance switch, wall thermostat, and draft regulator at prices equal to your low price competitor. Economical to buy—easy to install.

UNBEATABLE PROFITS — Silent Sioux offers you the winning combination for greatest sales—and lowest inventory! Special dealer helps . . . point of sale promotional material . . . national advertising . . . all help you make this a big year as a Silent Sioux dealer.



Sell Silent Sioux Conversion Burners, too! Easily converts coal burning furnaces to oil burning units. Low initial cost and economical to operate. Quiet and clean. Complete with controls, thermostat. Get acquainted with the Silent Sioux line today. Gas and Oil Space Heaters — Air Conditioning Furnaces — Conversion Burner Units. Mail coupon for full information at no obligation.

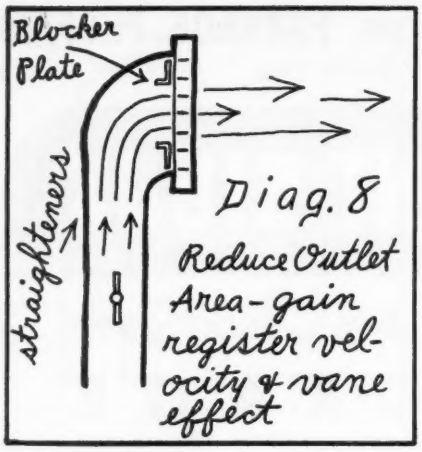
Silent Sioux Oil Burner Corp.
Orange City, Iowa, Dept. FO 650

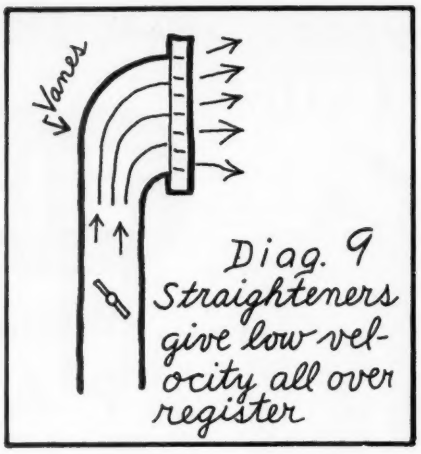
Please send me full information about Silent Sioux heating equipment and exclusive dealer franchise.

NAME .....

ADDRESS .....

CITY .....STATE.....





drop comes mostly across the register.

Vanes or straighteners for a low velocity register, shown in Diag. 9, make active the full face area of the register.

Talking recently about the poor furnace-duct heating of a certain group of new homes, I obtained a loud protest from the contractor who was putting in the systems.

"We get these jobs on price and price alone!" he exclaimed. "All that fancy stuff that makes the systems better also costs money. You could run up the price of these homes by maybe $40, maybe even $100. That, the home buyers could not afford!"

After I'd pointed out to no avail that more than half the houses in sight had television sets, advertised by the aerials, and that these probably cost the buyers of the new homes at least $250 that they could afford because they wanted to, one of the complaining home owners drove up and stopped to talk to us about his overwhelming heating troubles.

After remarking, pointedly in front of the heating contractor, that his house had a good looking television aerial and must have a set that worked well, I turned attention to his new car, a model that lists at perhaps $2,000.

"Got a good radio in the new car?" I asked.

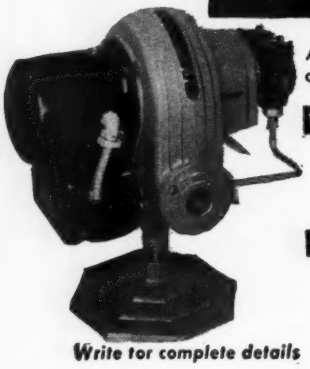
"A honey," he said, "Cost $95 with the car. The kids like it mostly, though. I seldom turn it on. Seems like in buying a car these days you just naturally put in a good radio because everybody does. Goes on the time payments, you know. Paying for it over two years or so doesn't hurt."

"You also got the works in a heater, air conditioner, and defroster thing for the car, I notice," I said next.

He grinned, "Yes, and that was another $85 added to the time payments on the car. A $25 heater would have served me well, I guess, but a guy likes to drive a car out of the showroom fully equipped with what its manufacturer made for it."

It turned out he was sorry he had not added to the car the one thing he lacked, about $100 worth of special automatic overdrive, or automatic transmission features, or something related.

important OIL BURNER FACTS ABOUT Radiant THE SERVICEMAN'S BURNER



A nation-wide survey conducted by our advertising agency showed that

1. RADIANT burner performance is equal to the highest price burner. Yet they are priced to meet the lowest competition, even on project work.
2. Heavy sales are due to
   —low cost of upkeep
   —ease of installation and servicing
   —factory guarantee
   —national distribution in protected territories

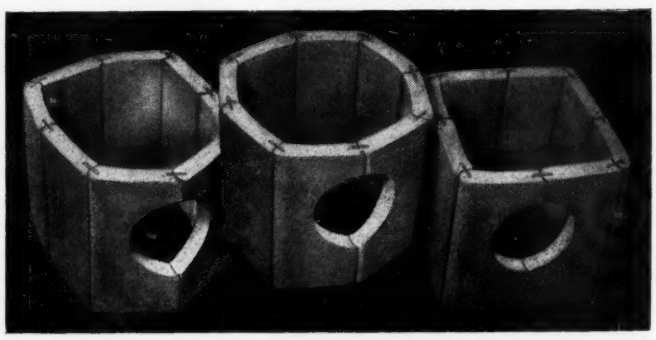
Write for complete details

New model equipped with Shell designed combustion head

RADIANT UTILITIES CORP.
8817 18th AVE., BROOKLYN 14, N. Y.

RADIANT OIL BURNER

Choose Your Shape!



Round, rectangular or pear shape.

All these shapes are possible with an R & I Combustion Chamber, shipped complete in a strong, convenient carton.

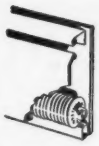
Easy to install. Thousands of satisfied customers.

Write for Bulletin BO-101

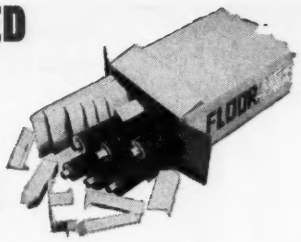
R&I

Refractory & Insulation Corp.
116 Wall St., New York 5, N. Y.
Chicago 4, Ill. Newark 2, N. J. Philadelphia 2, Pa.

Combustion Chamber



FLOORED by FLOORLEVEL!

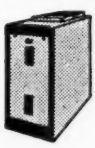


G/A's Baseboard Radiation bowled 'em over at OHI's annual convention in Philadelphia last month . . . Featured in a complete display, it showed outstanding advantages many already know.

Floorlevel in
ONE COMPLETE Easy-To-Sell HEATING PACKAGE
including circulator, de-airator tank, flow control valve, boiler-burner unit.

Write for Desirable Dealer Program with This Complete Line

CONVERSION BURNERS
BOILER-BURNER UNITS
WARM AIR CONDITIONERS
FLOORLEVEL BASEBOARD



GENERAL Automatic

Est. 1924

GENERAL AUTOMATIC PRODUCTS CORP.
2300 Sinclair Lane **Baltimore 13, Md.**

NEW PREFERRED Anti-Syphon VALVE

APPROVED BY UNDERWRITERS' LABORATORIES FOR NO. 6 OIL

Here's a new and important development in anti-syphon valves . . . Preferred's Type A Valve, which is the only valve available in these sizes approved by Underwriters' Laboratories for use with No. 6 oil, as well as with lighter oils. This angle type valve takes the place of an elbow when installed at the high point in the suction line, usually at the building wall, where the line drops to the basement floor.

- **Built-in dashpot eliminates chattering.**
- **The new Preferred Type A valve is spring-loaded and is available in 1¼", 1½" and 2" sizes for 5 or 10-foot head pressures.**
- **For Oils Up To No. 5—Valves C5 and C10 are available in ⅜" and ½" sizes.**
- **For Oils Up to and Including No. 5—Valves B5 and B10 are available in ¾" and 1" sizes. (1" size is built up from ¾" size with fittings.)**

PR 188

PREFERRED UTILITIES MFG. CORP.
1860 BROADWAY, NEW YORK 23, N. Y.

PREFERRED DRAFT-A-JUSTORS

Cut Fuel Consumption by 10% TO 30%

The *Preferred* Draft-A-Justor is the original, patented Draft-A-Justor . . . improved to include the latest in engineering developments.

Stainless steel bearings and weather resistant metals provide long-life service without breakdown due to rust or wear . . . assure *continuous* fuel savings.

Millions now in satisfactory use.

WRITE FOR DESCRIPTIVE LITERATURE AND TRADE PRICES.

SIZES

Stove, domestic and commercial sizes from 4" to 24" in diameter.

Industrial sizes from 2' x 2' to 5' x 12'.

PREFERRED UTILITIES MFG. CORP.
1860 Broadway, New York 23, N. Y. Boston Office: 839 Beacon St.

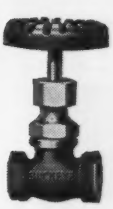
From tank to oil burner... ACCESSORIES by Buckeye

As one of the foremost names in the oil industry, "Buckeye" on your equipment signifies the ability of the equipment to *do* the job it was made to do . . . and to do it efficiently, economically and with a minimum of maintenance. These fittings, like the rest of the Buckeye complete line, live up to this reputation.

No. 4061 Angle Shut-off Valve
Needed on every line for emergency. Full capacity when wide open.

No. 4060 Globe Strainer
Sturdily and carefully made to clean oil before it enters the burner. Easily cleaned.

No. 4012 Angle Strainer
Widely used to eliminate impurities in the oil as it goes into the burner. Easily cleaned.



No. 4062 Globe Shut-off Valve
To close line for burner repair or replacement. Built for long life.

No. 79 and No. 444 Swing Check Valves
Disc lifts out of line of flow while pump operates.

Buckeye also manufactures Fill Caps, Fill Boxes, Sludge Pumps, Vents, Foot Valves and Bushings.

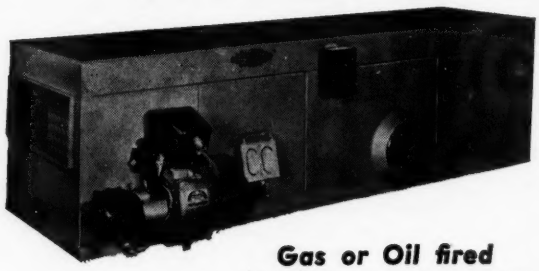
BUCKEYE IRON & BRASS WORKS, Dept. F
P. O. Box 883, Dayton 1, Ohio

An Unlimited Selling Market with the new

ARTCRAFT

SUSPENDED FURNACE

Hangs from the Ceiling
Saves valuable floor Space



Sell to Everyone in Town!!

- Homes
- Stores
- Super Marts
- Shops
- Garages
- Factories
- Warehouses
- Recreation Halls
- Commercial Buildings
- Service Stations

Our low competitive Price means more sales, greater profits.

Gas or Oil fired
75,000 to 350,000 B.T.U.

APPLY NOW FOR EXCLUSIVE TERRITORY.
FOR FURTHER INFORMATION

CHICAGO STEEL FURNACE COMPANY, 9326 S. Anthony Ave., Chicago 17, Illinois

"He puts in $185 unnecessarily on the car he'll pay for over about two years' time," I remarked to the heating contractor after the home owner left us, "and is sorry he didn't make it $285 by buying the other extra. His television, paid for in about two years if it's on time, comes to about $250.

"You're putting in such shoddy furnace-duct, oil-fired jobs that you're giving these home owners discomfort, and driving others to a different kind of heat for their new homes. That's because, you say, these people can't afford the real heating comfort that would come of installing systems that would cost maybe $40 or $100 extra, financed most likely not over two years like the fancy car and the television, but financed over 20 years.

"If you want to keep furnace-duct type heating popular for smallest, lowest-priced homes, it seems you'll have to give them better systems that cost a bit more. Once they're down on the type system you're selling cheap, buyers of new homes will be willing to pay plenty more for a type of system they know will give them the heating comfort they want and can afford!"

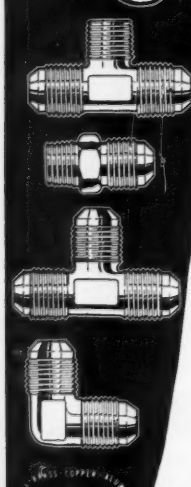
◈

C. A. "*Neal*" *Breen* has become manager liquefied gas sales division, Esso Standard Oil Co., New York 19, N. Y. He had been assistant manager of cargo and marine sales for the past year and previously was with Sylvestre Oil Co., Esso marketing affiliate for twelve years, serving as president from 1944 until 1949.

SOMETHING NEW!

SOMETHING NEEDED!

DIRECT CONNECTION between oil tank or drum and tube line to heater or furnace, has given this NEW, specially designed Leggitt Oil Tank Valve soaring sales. It is something much needed in thousands of homes to eliminate the usual leaky "make-shift" way of connecting heater to tank. This ALL BRASS VALVE with brass seat is of finest quality in construction and material and is a very saleable and fast moving item.



Always look to Leggitt for the newest in valves, filters, fittings, etc. — the BEST in BRASS at the MOST REASONABLE PRICES! Whether your order is large or small it will receive the same prompt and careful attention.

- GALVANIZED MALLEABLE IRON FITTINGS
- BRASS FITTINGS
- COPPER TUBING
- OIL FILTERS
- OIL VALVES

Write for catalog and prices.

SOUTHWESTERN
OFFICE & WAREHOUSE
548 Burleson
San Marcos, Texas

S. H. LEGGITT CO.
MARSHALL MICHIGAN

SILENT KORTH
OIL BURNERS

SILENT KORTH OIL HEAT

NOW DISTRIBUTED EXCLUSIVELY THRU PLUMBING & HEATING JOBBERS

- A SIZE FOR EVERY JOB. CAPACITY .75 TO 20 G.P.H.
- ADAPTOR FLANGES TO FIT BOILER OR FURNACE UNITS
- GE OR OHIO MOTOR
- M-H CONTROLS

SILENT KORTH INSURES YOUR PROFITS
IT IS SERVICE-FREE — IT STAYS SOLD!

Send for our Jobber Sales Plan today

ECKHART MFG. CO., INC.
UNION, NEW JERSEY

FOR BETTER CONTROL OF PRODUCT OR PROCESS...

22 BRANCH OFFICES

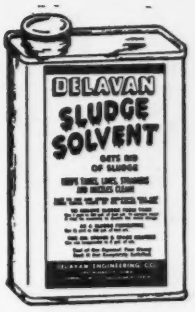
Baltimore 5
Buffalo 3
Cleveland 15
Detroit 8
Kansas City 2
New York 17
St. Louis 12
Birmingham 3
Chicago 5
Dallas 1
Glendale 1
Minneapolis 2
Philadelphia 23
San Francisco 7
Tulsa 6
Boston 16
Cincinnati 2
Denver 4
Houston 6
Newark 6
Pittsburgh 22
Seattle 1

...to serve you faster!

Whatever the problem...it it's concerned with *CONTROLS*...in heating, refrigeration, aircraft or industrial processing...there's a better solution at General Controls. For General Controls actually do more and cost less. So if you have a product or process where *control* is vital...check with any of the 22 conveniently located General Controls Branch Offices for better results...*faster!*

GENERAL CONTROLS
801 Allen Avenue, Glendale 1, California
Manufacturers of Automatic Pressure, Temperature, Level and Flow Controls

DELAVAN SLUDGE SOLVENT



HELPS PREVENT CLOGGED NOZZLES

Cut down service complaints on clogged lines and nozzles with Delavan Sludge Solvent. Keeps tanks, lines, filters free of sludge and water. Prevents formation of soot. Assures satisfied customers; makes you a nice profit.

DELAVAN MANUFACTURING CO.
3009 SIXTH AVE., DES MOINES 13, IOWA

Solenoid STAINLESS STEEL *Valves*

FOR OIL BURNERS

For increased customer satisfaction, always install Skinner Valves on new burners and as replacements. Soft synthetic inserts assure long life without leakage. Spring loading positively opens or closes valve in any position. Coils impregnated to withstand moisture. Available for drip eliminator, cut-off, pressure relief, gas ignition, shut-off, shut-off metering, shut-off with manually adjustable by-pass. All models for continuous or intermittent duty.

New Bulletin No. 492 contains complete data and prices. Write for FREE copy.

Skinner ELECTRIC VALVE DIV.
THE SKINNER CHUCK COMPANY
141 Belden Ave., Norwalk, Conn.

MAR-COIL SILENCERS

PREVENT WATER HAMMER!

MAR-COIL SILENCERS

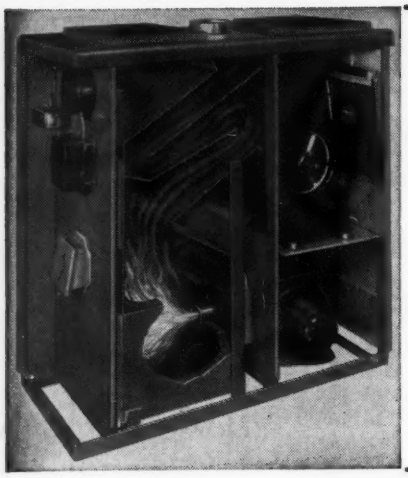
SIZE	Cubic Inches of Cushion
½" Type A	9 cu. in.
½" Type B	17 cu. in.
¾" Type C	33 cu. in.
1" Type D	55 cu. in.
1¼" Type E	103 cu. in.

ELIMINATES WATER HAMMER FROM HOT OR COLD WATER LINES!

Eliminate dangerous and annoying water hammer with MAR-COIL silencers. Available in five sizes to correct every job. Install easily in upright position and require no adjustment. Made of all polished brass and copper. For Homes, Apartments and Industry. On Tankless Heaters, Washing Machines, Dishwashers, Pumps, etc. Install as near as possible to the fixture that hammers.

We also make: **BOILER STANDS • FUEL OIL TANK GAUGES • TANKLESS HEATERS • TEMPERING VALVES • STEAM MOTORIZED GATE VALVES**

MAR-COIL HEATER CO.
200 PATERSON PLANK ROAD, UNION CITY, N. J.



Repco TRIPLE-PASS WINTER AIR CONDITIONER

COMPACT—Five individual heat exchangers with triple-pass construction.

Patent Pending

Write for full details about exclusive franchises for your territory on our full line of REPCO Winter Air Conditioners.

REPUBLIC PRODUCTS CO.

7420 STATE ROAD PHILADELPHIA 36, PA.

Douglas M. Considine has been promoted to the position of manager, market extension division, general sales, Brown Instruments Div., Minneapolis-Honeywell Regulator Co., Philadelphia. His new duties will include direction of advertising and technical and trade editorial activities. He will continue as technical editor of *Instrumentation*, Brown's house-trade publication.

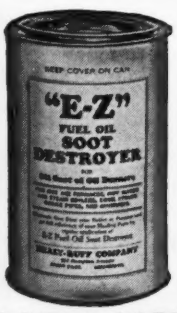
Charles A. Moore has been employed by Perfection Stove Co., Cleveland 4, Ohio, to cover Metropolitan Cleveland for the company's Cleveland sales district.

F. S. Nickerson, elected vice president, Mack-International Motor Truck Corp., New York, has been appointed manager of its central division sales territory. He will make his headquarters in Mack's Chicago office.

E. M. Palmer's election as vice president, Kewanee Boiler Corp., Kewanee, Ill., has been announced. He joined the company late in 1926 in its bookkeeping department, transferred to the Government Sales department in 1931 and was named its manager in 1942. He became assistant general manager of sales in 1945 and since 1948 has been vice president, general manager sales.

G. G. Coolidge has been appointed executive assistant to the president, Harbison-Walker Refractories Co., Pittsburgh, Pa. The appointment has been awaited since he relinquished his title as vice president in charge of sales a month ago due to company retirement policies.

E-Z MORE PROFIT PER Service Call



When the oil burner Servicemen answer a call it is easy many times to add furnace cleaning to the job. E-Z Fuel Oil Soot Destroyer (for fuel oil soot only) does a thorough, clean, safe job in just one application. Takes but a few minutes. Keep a 5 lb. Can on each service truck, always. Stock the 1 lb. Cans for sales to your customers. If your Distributor cannot supply you, order direct.

No. 1 Pkg. approx. 1 lb. ...List $1.00 ea.
No. 5 Pkg. approx. 5 lbs. ..List $4.50 ea.
Liberal discount to bona fide Servicemen.

Special discount to Distributors on quantity purchases, allows for extending regular discount to Dealers and Servicemen.

HEALY-RUFF COMPANY

797 Hampden Avenue • St. Paul 4, Minnesota

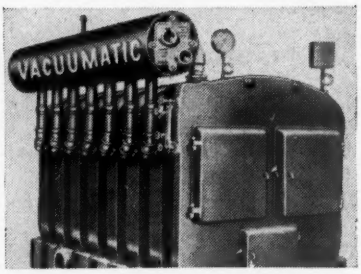
Alstrom VACUUMATIC*

"The World's Fastest Water Heater"

The perfect Summer-Winter hook-up for ALL Sectional Cast - Iron STEAM Boilers.

Write for FULL details TODAY!

*T.M. Reg.



THE ALSTROM CORPORATION

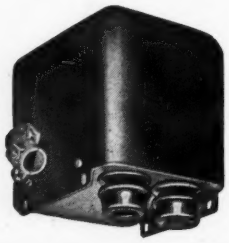
790 E. 176TH ST. BRONX 60, NEW YORK

DONGAN TRANSFORMERS

Leaders In the Oil-Burner Field

Dongan was among the first to build transformers for oil burners. In fact, the Dongan was the first transformer approved by the Underwriters Laboratories for oil-burner ignition.

Equip your oil-burner with a Dongan Transformer. There is none better!



Voltages from 5,000 to 20,000. A variety of sizes and mountings. Special types built to specifications.

Dongan Electric Manufacturing Co.
2981 Franklin Detroit 7, Mich.
"The Dongan Line Since 1909"

WRITE FOR LITERATURE

Cleans Chimneys Permanently

Stops down draft—prevents furnace explosions. Satisfaction guaranteed. This copper pot (with character) mailable.

For FREE BOOKLET and Dealer Proposition Write

WIGWAM FLUE TOP CO.

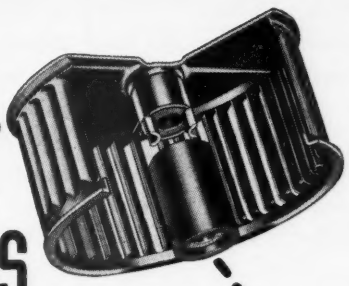
ABINGTON MASSACHUSETTS

SAVES THREE KINDS OF FUEL

Quiet Burners

USE

LOVEJOY L-R FLEXIBLE COUPLINGS



Lovejoy Couplings provide a *quiet* coupling for fans, pumps, and blowers. No rattle! Rubber center unit increases flexibility, eliminates noise. Design assures maximum absorption of shock, vibration, starting torque and overloads; corrects for misalignment, surge and backlash. Installation in close quarters is easy. Phone, wire or write for Bulletin 530, containing full details and prices.

And Remember . . .

MOST FAN MANUFACTURERS SUPPLY BLOWERS WITH L-R JAWS ON BLOWER HUBS AT NO EXTRA COST!

LOVEJOY FLEXIBLE COUPLING CO.
5012 W. Lake Street Chicago 44, Ill.

Mfrs. of Lovejoy Flexible Couplings for all Industrial services, Lovejoy Variable Speed Transmissions and Lovejoy Universal Joints.

Furnace Cleaning is a Profitable Business for You

- **You profit on the cleaning job**
- **You profit on furnace repair work**
- **You profit by selling new furnaces**

THE KENT DOUBLE SUCTION FURNACE CLEANER

- Live electric outlet at switchbox for extension light!

gets the most from this profitable business

The sturdy, reliable KENT gives longer service with fewer breakdowns—this means profit! So do the leads you get for repair work and new installations! Compare KENT quality before you buy!

- Dust bag is inside—less chance of tearing!
- Low center of gravity—prevents tipping!
- Separates into 2 parts — easy to carry!

CLEAN WITH KENT EQUIPMENT

The KENT Co., Inc. • 434 Canal Street • Rome, N. Y.

Air can be expensive in hot water heating systems

Use Maid-O'-Mist No. 67 Auto-Vent for automatically venting the air from Hot Water Convectors and Baseboard Radiation. Elimination of the air in every hot water heating system is essential for efficient operation.

- **Self-closing, float-controlled valve**
- **Non-ferrous metals**
- **Quick and easy to install**
- **Small size—3-3/16" x 1½" with ⅛" I.P. male connection**
- **No air chamber required**
- **For pressures up to 30 lbs.**
- **For vertical mounting only**

LIST PRICE $3.50

Ask Your Jobber

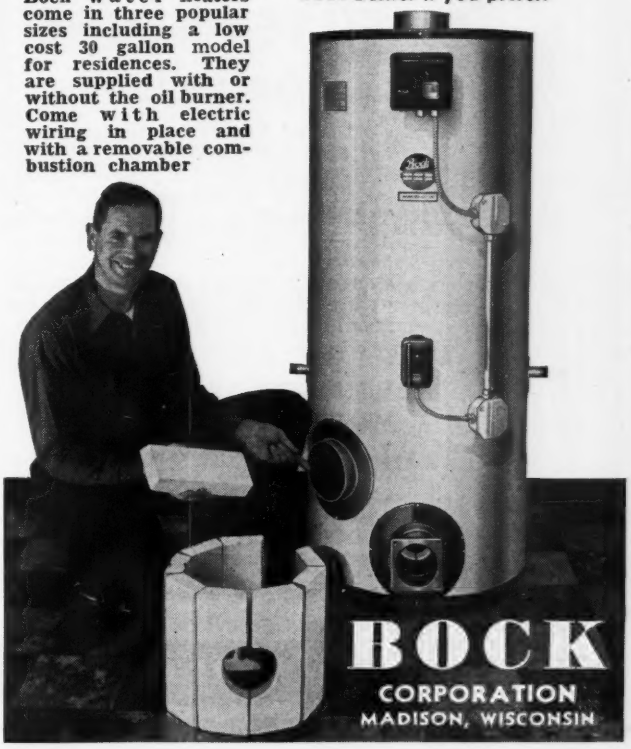
MAID-O'-MIST INC.
3231 N. PULASKI RD.
CHICAGO 41, ILLINOIS

AUTOMATIC HUMIDIFIERS FOR ALL TYPES OF HEATING SYSTEMS

FOR MORE REPEAT SALES

***Sell* BOCK WATER HEATERS** with a Gun type Burner. *Your* Burner if you prefer.

Bock water heaters come in three popular sizes including a low cost 30 gallon model for residences. They are supplied with or without the oil burner. Come with electric wiring in place and with a removable combustion chamber



BOCK CORPORATION
MADISON, WISCONSIN

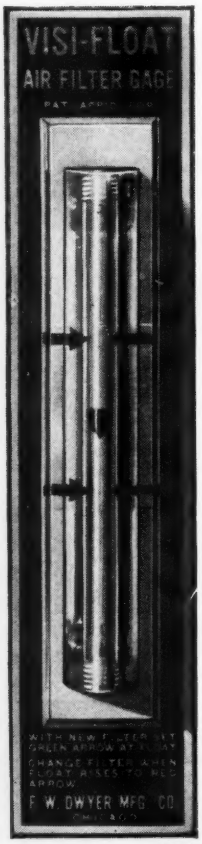
Oilheating Trends

(*Continued from page 12*)

ing activity coming to Eastern states, the impact on public opinion so far is more or less limited to the Mid-Atlantic states. Another interesting point in the table is the sectional difference in economic outlook. This is covered in the first three lines of the table and it is evident that the Midwest feels far more secure than other sections of the country.

FUELOIL STOCKS: Stocks of distillate fueloils in the hands of refiners, large terminals and in transport on May 6 were 26,695,000 barrels for the total area East of the Rockies. This compares with 43,227,000 barrels on the corresponding date of 1949. There has been some tightening of the markets as a result of this stock slump, but there is no cause for concern over future fueloil supplies. We had a very mild winter through the end of February and soft fueloil prices at the wholesale level. Refiners, remembering their experience of last year, cut back sharply on fueloil production. Then, March and April of this year turned out considerably colder than normal with a corresponding drain on stocks. Refiners would be well advised to plan a large increase in distillate demand next heating season to avoid the errors of 1947. The way burner activity is starting out in the first third of the year, 1950 could possibly be an all time peak in the number of burner installations.

DEALER COMMENTS: Typical comments on questions of the month are these . . . "The boys are really cutting burner prices. One local outfit is selling Delco for $199.50, also cut price oil competition with one cent off market is getting to be the rule" . . . "With most of our customers on a keep filled basis there is no reason for us to encourage summer fill-ups" . . . "I would like to guarantee our customers no increase until October 1 to eliminate resistance to summer fill-ups and keep everyone in the industry on automatic deliveries through the entire year" . . . "Oil dealers in our market advise new burner customers to wait until summer before filling tanks" . . . "Gas is our chief competitor, getting 100% of the new homes and some oil replacements; it won't be long before the oil dealer will be where the coal dealer is now (Iowa)" . . . "There are many new homes here but they are putting in pot-type units" . . . "Customers are expecting and waiting for summer fill discounts" . . . "We have plenty of prospects and sales—100% better than last year" . . . "Coal and coke prices are reduced for summer; to offset gas competition and to meet coal reductions how about a 9½¢ summer fill-up price for oil" . . . "Dealers need summer discounts to offset the higher cost on fewer deliveries" . . . "Any discount to dealers merely encourages more price cutting; if summer fill-ups are necessary a general price reduction should be the method" . . . "People are buying oilburners; the prospects we don't sell some other oilburner dealer does. Business is very good" . . . "Much more effort should be made to sell oil to counter the sale of gas" . . . "No summer discount should be given anyone; people in our community fill coal bins in the summer without a discount" . . . "We do not get any backing on a price guarantee, but four other companies here offer such a guarantee, with Standard leading the pack, so we naturally



SCOOP!

AUTOMATIC PERMANENT FILTER GAUGE

ONLY $3.25

First time! Ingenious, simple device, but does the trick. Mounts on face of forced air units. A positive warning of dirty filters always in view. VISI-FLOAT is complete, ready to use — a lifetime, lucite body with floating indicator that reacts constantly to varying pressures caused by dirt accumulation. No liquids or fragile parts. VISI-FLOAT is foolproof.

MR. DEALER!
MR. CONTRACTOR!

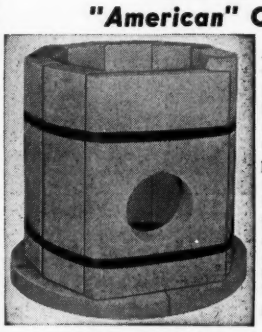
You can sell "one to a *cu*stomer"—for VISI-FLOAT cuts owners' fuel cost, allows more and cleaner air, reduces blower failure and repairs. STOCK NOW. Added profits . . . extra filter sales . . . VISI-FLOAT!

Write for quantity prices

F. W. Dwyer Mfg. Co.

315 South Western Avenue Chicago 12, Illinois

FOR BETTER HEATING
"American" Combustion Chambers



American chambers for domestic oil burners are recognized for these features:

BETTER PERFORMANCE — American light weight refractory chambers give you fast heat-up, quiet operation and fuel savings that mean satisfied customers.

HIGH QUALITY—Only high grade refractories built to withstand 2500° operating temperatures are used.

EASY INSTALLATION—Controlled manufacturing and careful design give you flexible pieces that fit together with a minimum of effort.

We invite your inquiries on standard or special shapes.

THE AMERICAN CLAY FORMING COMPANY
TIFFIN, OHIO
Twenty-seven years making quality refractories for the heating industry.

NOW'S the time
Get a BINDER
for 1950 copies of
FUELOIL & OIL HEAT

$3

REMEMBER when you remembered an article in FOH and you wished that you had kept the issue in which it appeared? Get a binder and have good reference material at hand.

HEATING PUBLISHERS, Inc.
232 Madison Avenue New York 16, N. Y.

KLEENMASTER Makes Servicing Profitable

Eliminate your service loss on oil accounts. Kleenmaster grosses $7.00 per customer after selling expense and labor.

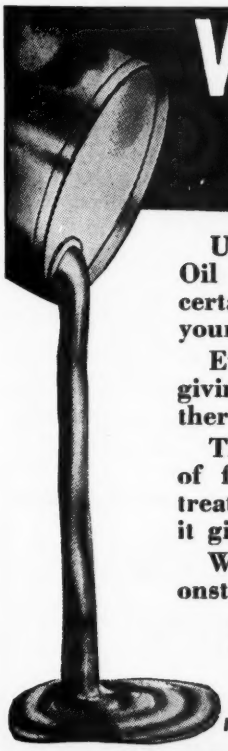
Keep your Drivers and Servicemen busy during the summer slack.

The "Big Bag" with your name in large type gives you "Billboard and Soundtruck" advertising.

Write for details including
Sales Manual and Profit Analysis

MOLLOY MACHINE CORPORATION
3445 N. Western Ave.
CHICAGO 18, ILL.

WASTE LESS FUEL OIL



Use Alken-Certified Even-Flo Fuel Oil Conditioner in your oil and be certain of obtaining the most for your money.

Even-Flo improves atomization, giving more complete combustion, thereby reducing soot deposit.

That over *1,000,000,000* gallons of fuel oil have been successfully treated with Even-Flo is proof that it gives "TOPS" in results.

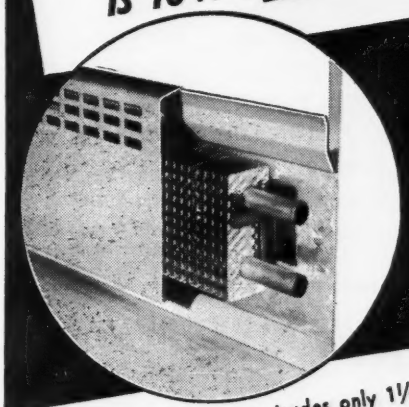
Write for booklet and *FREE* demonstration in your fuel oil.

ALKEN-MURRAY CORP.
131 E. 23rd St.
New York 10, N. Y.
Individual Water Treatments—Soot Removers

Certified Alken
EVEN-FLO
FUEL OIL CONDITIONER

IN BASEBOARD HEATING THE TREND IS TO ....

BROWN BAYCE-HEET
The New Aluminum Fin Baseboard



1. Fast Selling, Profitable
2. Provides More Heat
3. Easy to Install
4. Clean, Neat

- Smart looking, protrudes only 1⅛".
- 645 B.T.U. per lineal foot with 180° water temperature.
- Fins have amazing heat area due to exclusive beading process which provides greater radiation surface and durability.
- 5 ft. standard unit weighs only 12 lbs. . . . requires only 3 simple wall brackets to install. Easily cut to any desired length.
- Closed top & open front prevent streaking wall.
- Removable front for easy cleaning.

Illustrated Brochure 40 on Request

BROWN PRODUCTS COMPANY FOREST HILLS, NEW YORK

WHY IS A SIMPLEX SIMPLE TO SERVICE?

SIMPLEX PNEUMATIC TURBINE TYPE HEAVY OIL BURNERS

SIMPLEX OIL HEATING CORPORATION — OIL BURNING SYSTEMS

SINCE 1910

Every SIMPLEX has a minimum of moving parts to get out of order. Every SIMPLEX uses a **standard,** nationally recognized motor.

Add the fact that SIMPLEX heavy oil burners are priced for a whale of a dealer profit, and you know SIMPLEX offers an attractive dealer proposition.

A note on your letterhead brings the details.

SIMPLEX OIL HEATING CORP.
11 Park Place • New York 7, N. Y.

Looking for Results?

TRY KEK on that TOUGH JOB
GET ANY BOILER CLEAN
SAFELY and SURELY

TRY OUR OTHER QUALITY PRODUCTS TOO!

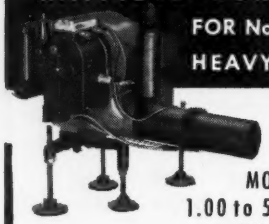
- KENBRIC Soot Remover — Bricks and Rods
- KENITE Boiler Repair — Permanent, Odorless
- KENITE Joint Compounds — Non-Hardening
- KENITE Oil Pipe Plastic for Oil, Gas & Refrigerants

Ask Your Jobber or Order Direct. Jobbers Protected.

Write for FREE BULLETINS

KENITE LABORATORY
Madison New Jersey

RAYFIELD BURNERS
FOR No. 4 or No. 5
HEAVY OILS



MODEL JR.
1.00 to 5.00 GALS./HR.
MODEL D4
3.00 to 12.00 GALS./HR.

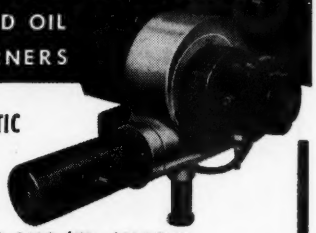
1. Fully Automatic
2. Self Cleaning Nozzle
3. Self Lubricating
4. All Electric Operation
5. Pays for itself from savings
6. Burns the cheaper No. 5 oil

RAYFIELD
AUTOMATIC

HEAT RECLAIMERS

1. Low in Price—Automatic—Easy Installation
2. Installs on Boilers, Furnaces or Stoves
3. For use with Coal, Gas, Oil or Wood
4. Increases output of ANY gravity warm air furnace
5. Heats Basements, Play Rooms, Garages, etc.
6. The hotter the stack—the more heat reclaimed
7. Saves wasted heat now going up the chimney

PATENTED COMBUSTION
HEAD OIL
BURNERS



for CATALYTIC
OILS TO
#3 GRADE
2 MODELS
1.00 to 3.00 GALS./HR. CAPACITY

1. Amazing Economy 12 to 15% CO_2
2. Clean boilers with perfected combustion
3. Burns Catalytic oils easily
4. Quiet—No Vibration or pulsation
5. Cuts user's oil bills 14 to 36%
6. The ideal replacement oil burner

C. L. RAYFIELD COMPANY • 2010-18 SO. HALSTED ST. • CHICAGO 8, ILL.

have to fall in line" . . . "We try to fill all tanks before the end of May" . . . "We need lower retail fueloil prices to compete with gas (Michigan)" . . . "Gas broke here January 23; in April we installed 42 gas jobs; we are now finding a large number of people interested in oil" . . . "On the questions of sales resistance factors we almost never here any of these; with us they either want to wait until the heating season is over or want to use up the coal they have" . . . "The future oilburner should make a spotless clean fire, never changing, have better controls, and orifices that will not plug, and be practically noiseless" . . . "If money loosens up at all we expect to sell a carload of burners" . . . "On lower spring prices, we offer accessories at lower cost; low price advertising is a factor in our 20-year experience" . . . "We would always do a guaranteed price campaign if we thought anyone was interested in it; we favor a top price contract for oil for the year, backed by the refineries" . . . "Believe only jobbers or dealers with storage should benefit by summer discount plan" . . . "People are becoming more price conscious than quality conscious" . . . On the question of summer discounts, prices in our area are posted by majors and we distributors follow any change immediately."

◈

A. T. Bartlett, who has been on special assignment in Shell Oil Company's head office in New York, has replaced Roscoe L. DeSpain, as operations manager of the Chicago marketing division. Mr. DeSpain became operations manager of the Cleveland division.

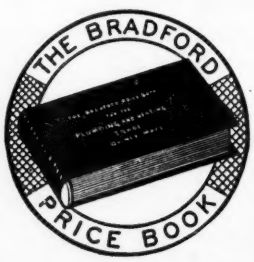
Fisher TANK AND WELDING CO.

Fabricators and erectors of large bulk storage tanks.

MAINTENANCE AND REPAIRS

Consult us for facts and figures.

Fisher TANK AND WELDING COMPANY
3rd and Booth Streets, Chester, Penna.



A MOST USEFUL
TOOL
IN MAINTAINING A SUCCESSFUL BUSINESS

SAMPLE SHEETS UPON REQUEST
THE BRADFORD PRICE BOOK
QUINCY 69, MASS.
Serving the Plumbing & Heating Trades, over a 1/3 of a century

For More Profitable Jobs
NU-TROJAN
Combustion Chambers
A Product of McLeod & Henry Co., Inc.

Nu-Trojan Chambers have the features that lower installation costs and reduce servicing costs to help you secure profitable jobs. Has few parts, does not need steel bands to hold them in place. First quality "Steel Mixture" Pennsylvania fire clay. Fusing point 3180° F. Write Dept. 61 for details.

A. R. WEBBER CO., INC.
DEPT. 61
NEW HAVEN 11, CONN.

EVERYTHING FOR THE OIL BURNER TRADE

SOOT-GO SOOT DESTROYER

STILL THE BEST for cleaning oil and gas-fired heating plants.
EFFICIENT AND ECONOMICAL TO USE

ALSO:
SLUDGE-GO for Cleaning Fuel Oil Tanks and Will Emulsify Water.
EZ-E WELD for Sealing Leaky Boilers. No After Odor. No Draining.

Write for name of nearest jobber
KALMIDE CHEMICAL CO., INC.
17 East 42nd St. New York 17, N. Y.

SAYBOLT Calibration Can Save You Money

HERE'S HOW: Saybolt Calibration insures accuracy in fueloil meters, tank trucks, and bulk storage tanks, thus preventing small daily losses which total hundreds of dollars annually.

Saybolt Calibration Service prevents profit leaks and pays for itself many times over in fueloil savings. Contact any of the 50 Saybolt offices in the United States and foreign ports, or write to:

E. W. SAYBOLT & COMPANY
Serving the Petroleum Industry for Over Half a Century
265 BAYWAY **ELIZABETH 2, N. J.**

Fred H. Pillsbury has succeeded to the post of president, Century Electric Co., St. Louis, Mo., relinquished on April 8 by his father, Edwin S. Pillsbury, one of the founders of the company and president since 1914. The elder Pillsbury continues as chairman of the Board of Directors, his son taking over active company management. The new president joined the company in 1927, has been vice president in charge of operations since last July and a member of the board since 1942. Two brothers, Joyce and William Pillsbury, also are members of the board.

William C. Schaller has joined Edward Owen and Co., advertising agency, Avon, Conn., as account executive and manager of the agency's catalog division. As such, he will direct a plan to produce for refrigeration and air conditioning jobbers a syndicated parts catalog with perpetual price lists.

Paul M. Deal has been appointed administrative assistant, Fractional Horsepower Motor Divisions, General Electric Co., Fort Wayne, Ind. With the company since 1938, he was named assistant to the divisions accountant, FHP motor divisions in 1949 and then supervisor of costs for the divisions. Another announcement revealed the advance of *C. E. Burke* to the position of manager of sales, Specialty Transformer and Ballast Divisions at Fort Wayne. Mr. Burke has been manager, Distribution Transformer Sales Division since 1945.

GORTON VALVES

ACTUAL SIZES OF AIR OUTLETS

4 5 6 C D 1 2

For Radiators For Mains

Write today for complete information and prices.

GORTON HEATING CORPORATION
Since 1887 — Manufacturers of Heating Equipment
CRANFORD NEW JERSEY

Sundstrand

an oil burner for every heating job

- All Surfaces Machined
- Precision Made Throughout
- Completely Fire Tested
- Variable Tube Lengths To Fit YOUR Requirements
- Flange Mounted
- Meet All Local And State Requirements

Write Us For Complete Information

SUNDSTRAND ENGINEERING COMPANY
ROCKFORD **ILLINOIS**

Dutton BOILERS
SINCE 1880

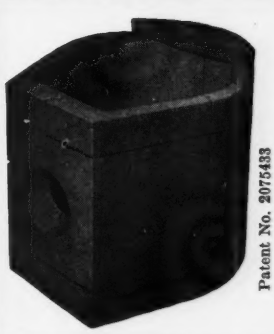
ECONOMIST
INSTALL YOUR OWN BURNER

Designed for Oil, Gas, Stoker or Hand Firing . . . supplies without burner if you wish to install your own. HRT type in a fully portable unit; bricked and insulated in steel case at factory. No special foundation needed. Write for catalog.

Serving Industries for 70 years—1880-1950

HOT WATER AND STEAM GENERATORS FOR HEATING, PROCESSING OR POWER
THE C. H. DUTTON COMPANY
625 GIBSON ST. **KALAMAZOO, MICHIGAN**

QUICK HEAT UP



Patent No. 2075433

LITE-CAST
COMBUSTION CHAMBERS
SOLD BY
LEADING JOBBERS
NATIONALLY

Write for our new Catalog which contains complete information and specifications on Combustion Chambers.

MONOGRAM PRODUCTS CO., INC.
PHILADELPHIA 4, PA.

Use "CRESCENT PARTS" Service

SERVING THE ST. LOUIS TRADE AREA

Authorized Fuel Unit Service Station

Stoker and Oil Burner Parts

FUEL UNITS
TRANSFORMERS
ELECTRODES
COMBUSTION CHAMBERS
FILTERS
TUBING
FITTINGS
NOZZLES
CONTROLS
OIL TANKS

CONTROL

REPAIR EXCHANGE SERVICE

SEND US YOUR ORDERS OR INQUIRIES

CRESCENT PARTS AND EQUIPMENT CO., INC.
825-831 S. Boyle Avenue St. Louis, Missouri

STOKER & OIL BURNER
M-H, PERFEX PENN

THE BETTER OIL BURNER!

PRESSURE ATOMIZING: Combustionhead, with vertical nozzle, is located inside the furnace or boiler. Pressure air, guided by "Swirlator," mixes with oil vapor to produce a highly turbulated volatile mixture resulting in a swirling ball of flame.

- NO COMBUSTION CHAMBER REQUIRED
- NO CARBONIZING ON NOZZLE OR IGNITION POINTS
- HIGHER CO_2 — GREATER COMBUSTION EFFICIENCY
- INSTALLATION PROBLEMS GREATLY SIMPLIFIED
- BURNS THE NEW TYPE OILS

Write for Literature — We are looking for live, experienced dealers. Let's Get Together!

SWIRLING HEAT CORPORATION

1775 Broadway, New York 19, N. Y.

Research Laboratories:
2818 N. Washington Blvd., Arlington, Virginia

SINCE 1929

DEGREE DAY TABLES

ONE MONTH ONLY					SEASON TO DATE			
	April		Percent		(Sept. 1 to Apr. 30)			Percent
Normal	1949	1950	Change*		Normal	1949	1950	Change*
549	430	654	+ 19.1	Albany	6366	5370	6436	+ 1.0
173	200	229	+ 32.3	Atlanta	2967	2581	2511	— 15.4
347	312	396	+ 14.1	Baltimore	4410	3591	3826	— 13.3
538	423	539	+ 0.1	Boston	5605	4787	5266	— 6.1
672	583	744	+ 10.7	Buffalo	6454	5638	6193	— 4.1
536	506	670	+ 25.0	Chicago	5946	5358	5776	— 2.9
374	342	434	+ 16.0	Cincinnati	4861	3931	4094	— 15.8
558	525	656	+ 17.5	Cleveland	5839	5027	5359	— 8.3
95	128	132	+ 38.9	Dallas	2364	2473	2081	— 12.0
523	435	515	— 1.6	Denver	5513	5801	4897	— 11.2
449	431	616	+ 37.1	Des Moines	6191	6223	6371	+ 2.9
569	534	696	+ 22.3	Detroit	6250	5588	6060	— 3.1
575	507	756	+ 31.4	Grand Rapids	6392	5742	6244	— 2.4
525	445	575	+ 9.5	Hartford	5821	5200	5717	— 1.8
643	519	726	+ 12.9	Helena	7191	8512	7983	+ 11.0
38	72	38	+ .0	Houston	1321	1257	886	— 33.0
414	401	526	+ 27.0	Indianapolis	5304	4713	4859	— 8.4
327	315	433	+ 32.4	Kansas City	4865	4847	4695	— 3.5
159	85	89	— 44.1	Los Angeles	1258	1784	1372	+ 9.0
302	333	396	+ 31.1	Louisville	4329	3762	3951	— 8.8
621	586	772	+ 24.3	Milwaukee	6615	6247	6675	+ 0.9
580	525	834	+ 43.7	Minneapolis	7643	7478	8061	+ 5.4
32	32	55	+ 71.8	New Orleans	1207	870	982	— 18.7
467	356	494	+ 5.7	New York	5094	4100	4439	— 12.9
414	374	559	+ 35.0	Omaha	5922	6227	6286	+ 6.1
378	335	463	+ 22.4	Philadelphia	4605	3872	4200	— 8.8
448	423	524	+ 16.9	Pittsburgh	5257	4388	4720	— 10.3
668	511	718	+ 7.4	Portland, Me.	6753	5944	6919	+ 2.4
370	307	425	+ 14.8	Portland, Ore.	3973	4377	4293	+ 8.0
543	386	539	— 0.8	Providence	5701	4602	5192	— 9.0
290	343	346	+ 19.3	Roanoke	4028	3797	3786	— 6.1
305	321	423	+ 38.6	St. Louis	4514	4287	4217	— 6.6
450	301	446	— 0.9	Salt Lake City	5335	5902	5053	— 5.3
269	280	267	— 0.8	San Francisco	2317	2846	2474	+ 6.7
829	748	1054	+ 27.1	Sault Ste. Marie	8416	7741	8676	+ 3.0
440	396	452	+ 2.7	Seattle	4256	4598	4515	+ 6.0
534	536	675	+ 26.4	Toledo	5976	5433	5920	— 1.0
345	297	377	+ 9.2	Washington	4478	3569	3730	— 16.8

*Compared with normal. Note: Above figures secured from Monthly Meteorological Summaries published by U. S. Weather Bureau offices in individual cities.